

SEQUENCE LISTING

<110> Bertelli, Francois
Brown, Jason P.

<120> SECRETED SOLUBLE ALPHA2DELTA-2, ALPHA2DELTA-3 OR
ALPHA2DELTA-4 CALCIUM CHANNEL SUBUNIT POLYPEPTIDES AND
SCREENING ASSAYS USING SAME

<130> A0000180 Sequence

<140>

<141>

<150> PCT/EP00/09137

<151> 2000-09-18

<150> 09/397,550

<151> 1999-09-16

<160> 55

<170> PatentIn Ver. 2.1

<210> 1

<211> 3186

<212> DNA

<213> Homo sapiens

<400> 1

```

atggcggtgc cggctcggac ctgcgggcgcc tctcgggccc gccagcgcg gactgcgcgc 60
ccctggcccc gctgcggccc ccacctggc cccggcacc gccgcccgc gtccggggccc 120
ccgcgccccg tgtggtgtgt gctgccgtt ctaccgtgc tcgccgccc cggcgccctt 180
gcctacagct tccccagca gcacacgat cagcactgg cccggcgctt ggagcaggag 240
gtcgacggcg tgatgcggat ttttgaggc gtccagcag tccgtgagat ttacaaggac 300
aaccggaacc tgttcgaggt acaggagaat gagcctcaga agttggtgga gaaggtggca 360
ggggacattg agagccttct ggacaggaag gtgcaggccc tgaagagact ggctgatgct 420
gcagagaact tccagaaagc acaccgctgg caggacaaca tcaaggagga agacatcgtg 480
tactatgacg ccaaggctga cgctgagctg gacgacctg agagtgagga tgtggaaagg 540
gggtctaagg ccagcaccct aaggctggac ttcacgagg acccaaactt caagaacaag 600
gtcaactatt catagcggc tgtacagatc cctacggaca tctacaaagg ctccactgtc 660
atcctcaatg agctcaactg gacagaggcc ctggagaatg tggtcatgga aaaccgcaga 720
caagaccca cactgctgtg gcaggtcttc ggcagcgcca caggagtcac tcgtactac 780
ccggccacc cgtggcgagc cccaagaag atcgacctgt acgatgtccg aaggagaccc 840
tggtatatcc agggggcctc gtcacccaaa gacatggtca tcatcgtgga tgtgagtggc 900
agtgtgagcg gcctgacct gaagctgatg aagacatctg tctgcgagat gctggacacg 960
ctgtctgatg atgactatgt gaatgtggc tcgttcaacg agaaggcaca gcctgtgtca 1020
tgcttcacac acctggtgca ggccaatgtg cgcaacaaga aggtgttcaa ggaagctgtg 1080

```

EXPRESS MAIL NO. EJ676053044US
A0000180/2-01-MG

cagggcatgg	tggccaaggg	caccacaggg	tacaaggccg	gctttgagta	tgcttttgac	1140
cagctgcaga	actccaacat	cactcggggc	aactgcaaca	agatgatcat	gatgttcacg	1200
gatggtggtg	aggaccgcgt	gcaggacgtc	tttgagaagt	acaattggcc	aaaccggacg	1260
gtgcgcgtgt	ttactttctc	cgtggggcag	cataactatg	acgtcacacc	gctgcagtgg	1320
atggcctgtg	ccaacaaagg	ctactatttt	gagatccctt	ccatcggagc	catccgcatc	1380
aacacacagg	aatatctaga	tgtgttgggc	aggcccatgg	tgctggcagg	caaggaggcc	1440
aagcaggttc	agtggaccaa	cgtgtatgag	gatgcactgg	gactgggggt	ggtggtaaca	1500
gggaccctcc	ctgttttcaa	cctgacacag	gatggccctg	gggaaaagaa	gaaccagctg	1560
atcctgggcg	tgatgggcat	tgacgtggct	ctgaatgaca	tcaagaggct	gacccccaac	1620
tacacgcttg	gagccaacgg	ctatgtgttt	gccattgacc	tgaacggcta	cgtgttgctg	1680
cacccaatc	tcaagcccca	gaccaccaac	ttccgggagc	ctgtgactct	ggacttcctg	1740
gatgcggagc	tagaggatga	gaacaaggaa	gagatccgtc	ggagcatgat	tgatggcaac	1800
aagggccaca	agcagatcag	aacgttggtc	aagtccctgg	atgagaggta	catagatgag	1860
gtgacacgga	actacacctg	ggtgcctata	aggagcacta	actacagcct	ggggctggtg	1920
ctcccacct	acagcacctt	ctacctcaa	gccaatctca	gtgaccagat	cctgcaggtc	1980
aagtattttg	agttcctgct	ccccagcagc	tttgagtctg	aaggacacgt	tttcattgct	2040
cccagagagt	actgcaagga	cctgaatgcc	tcagacaaca	acaccgagtt	cctgaaaaac	2100
tttattgagc	tcatggagaa	agtgactcca	gactccaagc	agtgcaacaa	cttccttctg	2160
cacaacctga	tcttgacac	gggcatcacg	cagcagctgg	tagagcgtgt	gtggagggac	2220
caggatctca	acacgtacag	cctactggcc	gtgttcgctg	ccacagacgg	tggcatcacc	2280
cgagtcttcc	ccaacaaggc	agctgaggac	tggacagaga	accctgagcc	cttcaatgcc	2340
agcttctacc	gccgcagcct	ggataaccac	ggttatgtct	tcaagcccc	acaccaggat	2400
gccctgttaa	ggccgctgga	gctggagaat	gacactgtgg	gcacccctcg	cagcacagct	2460
gtggagctca	gcctaggcag	gcgcacactg	aggccagcag	tgggtggcgt	caagctggac	2520
ctagaggctt	gggctgagaa	gttcaagggtg	ctagccagca	accgtaccca	ccaagaccag	2580
cctcagaagt	gcggcccca	cagccactgt	gagatggact	gcgagggtta	caatgaggac	2640
ttactctgtg	tcctcattga	tgatggagga	ttcctggtgc	tgtcaaacca	gaaccatcag	2700
tgggaccagg	tgggcagggt	cttcagttag	gtggatgcca	acctgatgct	ggcactctac	2760
aataactcct	tctacacccg	caaggagtcc	tatgactatc	aggcagcctg	tgcccctcag	2820
ccccctggca	acctgggtgc	tgacccccgg	ggtgtctttg	tgcccaccgt	tgagatttc	2880
cttaacctgg	cctggtggac	ctctgctgcc	gcctggtccc	tgttccagca	gcttctctac	2940
ggcctcatct	accacagctg	gttccaagca	gaccccgcg	aggccgaggg	gagccccgag	3000
acgcgcgaga	gcagctgcgt	catgaaacag	acccagtact	acttcggctc	ggtaaaccgc	3060
tcctacaacg	ccatcatcga	ctgcggaaac	tgctccaggc	tgttccacgc	gcagagactg	3120
accaacacca	atcttctctt	tgtggtggcc	gagaagccgc	tgtgcagcca	gtgcgaggct	3180
ggccgg						3186

<210> 2

<211> 3248

<212> DNA

<213> Homo sapiens

<400> 2

atggcggtgc	cggctcggac	ctgcggcgcc	tctcgggccc	gcccagcgcg	gactgcgcgc	60
ccctggcccc	gctgcggccc	ccaccctggc	cccggcacc	ggcgcccgac	gtccggggcc	120
ccgcgccccg	tgtggctgct	gctgcgcctt	ctaccgctgc	tcgcccgc	cggcgctct	180
gcctacagct	tccccagca	gcacacgatg	cagcactggg	cccggcgtct	ggagcaggag	240

gtcgacggcg	tgatgcggat	ttttggaggg	gtccagcagc	tccgtgagat	ttacaaggac	300
aaccggaacc	tggttcgaggt	acaggagaat	gagcctcaga	agttggtgga	gaaggtggca	360
ggggacattg	agagccttct	ggacaggaag	gtgcaggccc	tgaagagact	ggctgatgct	420
gcagagaact	tccagaaagc	acaccgctgg	caggacaaca	tcaaggagga	agacatcgtg	480
tactatgacg	ccaaggctga	cgctgagctg	gacgaccctg	agagtgagga	tgtggaaagg	540
gggtctaagg	ccagcaccct	aaggctggac	ttcatcgagg	acccaaactt	caagaacaag	600
gtcaactatt	catacgcggc	tgtacagatc	cctacggaca	tctacaaagg	ctccactgtc	660
atcctcaatg	agctcaactg	gacagaggcc	ctggagaatg	tggtcatgga	aaaccgcaga	720
caagacccca	cactgctgtg	gcaggctctc	ggcagcgcca	caggagtcac	tcgctactac	780
ccggccaccc	cgtggcgagc	ccccaaag	atcgacctgt	acgatgtccg	aaggagaccc	840
tggtatatcc	agggggcctc	gtcacccaaa	gacatggtca	tcatcgtgga	tgtgagtggc	900
agtgtgagcg	gcctgaccct	gaagctgatg	aagacatctg	tctgcgagat	gctggacacg	960
ctgtctgatg	atgactatgt	gaatgtggcc	tcgttcaacg	agaaggcaca	gcctgtgtca	1020
tgcttcacac	acctggtgca	ggccaatgtg	cgcaacaaga	aggtgttcaa	ggaagctgtg	1080
cagggcatgg	tgGCCAAGGG	caccacaggc	tacaaggccg	gctttgagta	tgcccttgac	1140
cagctgcaga	actccaacat	cactcggggc	aactgcaaca	agatgatcat	gatgttcacg	1200
gatggtggtg	aggaccgcgt	gcaggacgtc	tttgagaagt	acaattggcc	aaaccggacg	1260
gtgcgcgtgt	ttactttctc	cgtggggcag	cataactatg	acgtcacacc	gctgcagtgg	1320
atggcctgtg	ccaacaaagg	ctactatttt	gagatccctt	ccatcggagc	catccgcata	1380
aacacacagg	aatatctaga	tgtgttgggc	aggcccatgg	tgctggcagg	caaggaggcc	1440
aagcagggtt	agtggaccaa	cgtgtatgag	gatgcactgg	gactgggggt	ggtggtaaca	1500
gggacccctc	ctgttttcaa	cctgacacag	gatggccctg	gggaaaagaa	gaaccagctg	1560
atcctgggcg	tgatgggcat	tgacgtggct	ctgaatgaca	tcaagaggct	gacccccaac	1620
tacacgcttg	gagccaacgg	ctatgtgttt	gccattgacc	tgaacggcta	cgtgttgctg	1680
caccccaatc	tcaagcccca	gaccaccaac	ttccgggagc	ctgtgactct	ggacttcctg	1740
gatgcggagc	tagaggatga	gaacaaggaa	gagatccgtc	ggagcatgat	tgatggcaac	1800
aaggggccaca	agcagatcag	aacgttggtc	aagtccctgg	atgagaggta	catagatgag	1860
gtgacacgga	actacacctg	ggtgcctata	aggagcacta	actacagcct	ggggctggtg	1920
ctcccaccct	acagcacctt	ctacctccaa	gccaatctca	gtgaccagat	cctgcaggct	1980
aagtattttg	agttcctgct	ccccagcagc	tttgagtctg	aaggacacgt	tttcattgct	2040
cccagagagt	actgcaagga	cctgaatgcc	tcagacaaca	acaccgagtt	cctgaaaaac	2100
tttatttgagc	tcatggagaa	agtgactcca	gactccaagc	agtgcaacaa	cttccttctg	2160
cacaacctga	tcttggaac	gggcatcacg	cagcagctgg	tagagcgtgt	gtggagggac	2220
caggatctca	acacgtacag	cctactggcc	gtgttcgctg	ccacagacgg	tgccatcacc	2280
cgagtcttcc	ccaacaaggc	agctgaggac	tggaacagaga	accctgagcc	cttcaatgcc	2340
agcttctacc	gccgcagcct	ggataaccac	ggttatgtct	tcaagcccc	acaccaggat	2400
gccctgttaa	ggccgctgga	gctggagaat	gacactgtgg	gcacccctgt	cagcacagct	2460
gtggagctca	gcctaggcag	gcgcacactg	aggccagcag	tggtgggctg	caagctggac	2520
ctagaggctt	gggctgagaa	gttcaagggtg	ctagccagca	accgtaccca	ccaagaccag	2580
cctcagaagt	gcggcccca	cagccactgt	gagatggact	gcgagggttaa	caatgaggac	2640
ttactctgtg	tcctcattga	tgatggagga	ttcctggtgc	tgtcaaacca	gaaccatcag	2700
tgggaccagg	tgggcagggt	cttcagtgtg	gtggatgcca	acctgatgct	ggcactctac	2760
aataactcct	tctacaccgg	caaggagtcc	tatgactatc	aggcagcctg	tgccctcag	2820
ccccctggca	acctgggtgc	tgcaccccg	ggtgtctttg	tgccaccgt	tgcagatttc	2880
cttaacctgg	cctgggtggac	ctctgctgcc	gcctgggtccc	tgttccagca	gcttctctac	2940
ggcctcatct	accacagctg	gttccaagca	gaccccgcg	aggccgaggg	gagccccgag	3000
acgcgcgaga	gcagctgcgt	catgaaacag	acccagtact	acttcggctc	ggtaaacgcc	3060
tcctacaacg	ccatcatcga	ctgcggaaac	tgctccaggc	tgttccacgc	gcagagactg	3120

```

accaacacca atcttctctt tgtggtggcc gagaagccgc tgtgcagcca gtgcgaggct 3180
ggccggctgc tgcagaagga gacgcactgc ccagcggacg gcccgagca gtgtgagcta 3240
gtgcagag                                     3248

```

<210> 3

<211> 3327

<212> DNA

<213> Homo sapiens

<400> 3

```

atggcggtgc cggctcggac ctgcggcgcc tctcgccccg gccagcgcg gactgcgcgc 60
ccctggcccc gctcggcccc ccacctggc cccggcaccg ggcgccccgac gtccggggccc 120
ccgcgccccg tgtggtgctg gctgccgctt ctaccgctgc tcgccccccc cggcgccctct 180
gcctacagct tccccagca gcacacgatg cagcactggg cccggcgtct ggagcaggag 240
gtcgacggcg tgatgcggat ttttggaggc gtccagcagc tccgtgagat ttacaaggac 300
aaccggaacc tgttcgaggt acaggagaat gaggctcaga agttggtgga gaaggtggca 360
ggggacattg agagccttct ggacaggaag gtgcaggccc tgaagagact ggctgatgct 420
gcagagaact tccagaaagc acaccgctgg caggacaaca tcaaggagga agacatcgtg 480
tactatgacg ccaaggctga cgctgagctg gacgaccctg agagtgagga tgtggaaagg 540
gggtctaagg ccagcaccct aaggctggac ttcacgagg acccaaactt caagaacaag 600
gtcaactatt catagcgggc tgtacagatc cctacggaca tctacaaagg ctccactgtc 660
atcctcaatg agctcaactg gacagaggcc ctggagaatg tgttcatgga aaaccgcaga 720
caagacccca cactgctgtg gcaggtcttc ggcagcgcca caggagtcac tcgctactac 780
ccggccaccc cgtggcgagc cccaagaag atcgacctgt acgatgtccg aaggagaccc 840
tggtatatcc agggggcctc gtcacccaaa gacatggtca tcatcgtgga tgtgagtggc 900
agtgtgagcg gcctgaccct gaagctgatg aagacatctg tctgcgagat gctggacacg 960
ctgtctgatg atgactatgt gaatgtggcc tcgttcaacg agaaggcaca gcctgtgtca 1020
tgcttcacac acctggtgca ggccaatgtg cgcaacaaga aggtgttcaa ggaagctgtg 1080
cagggcatgg tggccaaggg caccacaggc tacaaggccg gctttgagta tgcctttgac 1140
cagctgcaga actccaacat cactcggggc aactgcaaca agatgatcat gatgttcacg 1200
gatggtggtg aggaccgctg gcaggacgtc tttgagaagt acaattggcc aaaccggacg 1260
gtgcgcgtgt ttactttctc cgtggggcag cataactatg acgtcacacc gctgcagtgg 1320
atggcctgtg ccaacaaagg ctactatttt gagatccctt ccatcgagc catccgcac 1380
aacacacagg aatatctaga tgtgttgggc agggccatgg tgctggcagg caaggaggcc 1440
aagcaggttc agtggaccaa cgtgtatgag gatgcactgg gactgggggt ggtggtaaca 1500
gggaccctcc ctgttttcaa cctgacacag gatggccctg gggaaaagaa gaaccagctg 1560
atcctgggcg tgatgggcat tgacgtggct ctgaatgaca tcaagaggct gacccccaac 1620
tacacgcttg gagccaacgg ctatgtgttt gccattgacc tgaacggcta cgtgttgctg 1680
caccccaatc tcaagcccca gaccaccaac ttccgggagc ctgtgactct ggacttctctg 1740
gatgcggagc tagaggatga gaacaaggaa gagatccgtc ggagcatgat tgatggcaac 1800
aagggccaca agcagatcag aacgttggtc aagtccctgg atgagaggta catagatgag 1860
gtgacacgga actacacctg ggtgcctata aggagcacta actacagcct ggggctggtg 1920
ctcccaccct acagcacctt ctacctccaa gccaatctca gtgaccagat cctgcaggctc 1980
aagtattttg agttcctgct cccagcagc tttgagtctg aaggacacgt tttcattgct 2040
cccagagagt actgcaagga cctgaatgcc tcagacaaca acaccgagtt cctgaaaaaac 2100
tttattgagc tcatggagaa agtgactcca gactccaagc agtgcaacaa ctctcttctg 2160
cacaacctga tcttggacac gggcatcacg cagcagctgg tagagcgtgt gtggagggac 2220

```



```

caggatctca acacgtacag cctactggcc gtgttcgctg ccacagacgg tggcatcacc 2280
cgagtcttcc ccaacaaggc agctgaggac tggacagaga accctgagcc cttcaatgcc 2340
agcttctacc gccgcagcct ggataaccac ggttatgtct tcaagcccc acaccaggat 2400
gccctgttaa ggccgctgga gctggagaat gacactgtgg gcatcctcgt cagcacagct 2460
gtggagctca gcctaggcag ggcacactg aggccagcag tgggtggcgt caagctggac 2520
ctagaggctt gggctgagaa gttcaagggtg ctagccagca accgtacca ccaagaccag 2580
cctcagaagt gcggcccaa cagccactgt gagatggact gcgagggtta caatgaggac 2640
ttactctgtg tcctcattga tgatggagga ttcctggtgc tgtcaaacca gaaccatcag 2700
tgggaccagg tgggcagggt cttcagttag gtggatgcc accctgatgct ggcactctac 2760
aataactcct tctacaccgc caaggagtcc tatgactatc aggcagcctg tgcccctcag 2820
ccccctggca acctgggtgc tgcaccccg ggtgtctttg tgcccaccgt tgcagatttc 2880
cttaacctgg cctggtggac ctctgtgcc gcctgggtccc tgttcagca gttctctac 2940
ggcctcatct accacagctg gttccaagca gacccgcgg aggccgagg gagccccgag 3000
acgcgcgaga gcagctgcgt catgaaacag acccagtact acttcggctc ggtaaaccgc 3060
tcctacaacg ccatcatcga ctgcggaaac tgctccaggc tgttcacgc gcagagactg 3120
accaacacca atcttctctt tgtggtggcc gagaagccgc tgtgcagcca gtgcgaggct 3180
ggccggctgc tgcagaagga gacgcactgc ccagcggacg gcccgagca gtgtgagcta 3240
gtgcagagac cgcgataccg gagaggcccg cacatctgct tcgactaaa cgcgacagaa 3300
gatacctcag actgtggccg cggggcc 3327

```

<210> 4

<211> 1062

<212> PRT

<213> Homo sapiens

<400> 4

```

Met Ala Val Pro Ala Arg Thr Cys Gly Ala Ser Arg Pro Gly Pro Ala
  1              5              10              15

Arg Thr Ala Arg Pro Trp Pro Gly Cys Gly Pro His Pro Gly Pro Gly
      20              25              30

Thr Arg Arg Pro Thr Ser Gly Pro Pro Arg Pro Leu Trp Leu Leu Leu
      35              40              45

Pro Leu Leu Pro Leu Leu Ala Ala Pro Gly Ala Ser Ala Tyr Ser Phe
      50              55              60

Pro Gln Gln His Thr Met Gln His Trp Ala Arg Arg Leu Glu Gln Glu
      65              70              75              80

Val Asp Gly Val Met Arg Ile Phe Gly Gly Val Gln Gln Leu Arg Glu
      85              90              95

Ile Tyr Lys Asp Asn Arg Asn Leu Phe Glu Val Gln Glu Asn Glu Pro
      100             105             110

```

Gln Lys Leu Val Glu Lys Val Ala Gly Asp Ile Glu Ser Leu Leu Asp			
115	120	125	
Arg Lys Val Gln Ala Leu Lys Arg Leu Ala Asp Ala Ala Glu Asn Phe			
130	135	140	
Gln Lys Ala His Arg Trp Gln Asp Asn Ile Lys Glu Glu Asp Ile Val			
145	150	155	160
Tyr Tyr Asp Ala Lys Ala Asp Ala Glu Leu Asp Asp Pro Glu Ser Glu			
165	170	175	
Asp Val Glu Arg Gly Ser Lys Ala Ser Thr Leu Arg Leu Asp Phe Ile			
180	185	190	
Glu Asp Pro Asn Phe Lys Asn Lys Val Asn Tyr Ser Tyr Ala Ala Val			
195	200	205	
Gln Ile Pro Thr Asp Ile Tyr Lys Gly Ser Thr Val Ile Leu Asn Glu			
210	215	220	
Leu Asn Trp Thr Glu Ala Leu Glu Asn Val Phe Met Glu Asn Arg Arg			
225	230	235	240
Gln Asp Pro Thr Leu Leu Trp Gln Val Phe Gly Ser Ala Thr Gly Val			
245	250	255	
Thr Arg Tyr Tyr Pro Ala Thr Pro Trp Arg Ala Pro Lys Lys Ile Asp			
260	265	270	
Leu Tyr Asp Val Arg Arg Arg Pro Trp Tyr Ile Gln Gly Ala Ser Ser			
275	280	285	
Pro Lys Asp Met Val Ile Ile Val Asp Val Ser Gly Ser Val Ser Gly			
290	295	300	
Leu Thr Leu Lys Leu Met Lys Thr Ser Val Cys Glu Met Leu Asp Thr			
305	310	315	320
Leu Ser Asp Asp Asp Tyr Val Asn Val Ala Ser Phe Asn Glu Lys Ala			
325	330	335	
Gln Pro Val Ser Cys Phe Thr His Leu Val Gln Ala Asn Val Arg Asn			
340	345	350	
Lys Lys Val Phe Lys Glu Ala Val Gln Gly Met Val Ala Lys Gly Thr			
355	360	365	

Thr Gly Tyr Lys Ala Gly Phe Glu Tyr Ala Phe Asp Gln Leu Gln Asn			
370	375	380	
Ser Asn Ile Thr Arg Ala Asn Cys Asn Lys Met Ile Met Met Phe Thr			
385	390	395	400
Asp Gly Gly Glu Asp Arg Val Gln Asp Val Phe Glu Lys Tyr Asn Trp			
	405	410	415
Pro Asn Arg Thr Val Arg Val Phe Thr Phe Ser Val Gly Gln His Asn			
	420	425	430
Tyr Asp Val Thr Pro Leu Gln Trp Met Ala Cys Ala Asn Lys Gly Tyr			
	435	440	445
Tyr Phe Glu Ile Pro Ser Ile Gly Ala Ile Arg Ile Asn Thr Gln Glu			
	450	455	460
Tyr Leu Asp Val Leu Gly Arg Pro Met Val Leu Ala Gly Lys Glu Ala			
465	470	475	480
Lys Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu Gly Leu Gly			
	485	490	495
Leu Val Val Thr Gly Thr Leu Pro Val Phe Asn Leu Thr Gln Asp Gly			
	500	505	510
Pro Gly Glu Lys Lys Asn Gln Leu Ile Leu Gly Val Met Gly Ile Asp			
	515	520	525
Val Ala Leu Asn Asp Ile Lys Arg Leu Thr Pro Asn Tyr Thr Leu Gly			
	530	535	540
Ala Asn Gly Tyr Val Phe Ala Ile Asp Leu Asn Gly Tyr Val Leu Leu			
545	550	555	560
His Pro Asn Leu Lys Pro Gln Thr Thr Asn Phe Arg Glu Pro Val Thr			
	565	570	575
Leu Asp Phe Leu Asp Ala Glu Leu Glu Asp Glu Asn Lys Glu Glu Ile			
	580	585	590
Arg Arg Ser Met Ile Asp Gly Asn Lys Gly His Lys Gln Ile Arg Thr			
	595	600	605
Leu Val Lys Ser Leu Asp Glu Arg Tyr Ile Asp Glu Val Thr Arg Asn			
	610	615	620

Tyr	Thr	Trp	Val	Pro	Ile	Arg	Ser	Thr	Asn	Tyr	Ser	Leu	Gly	Leu	Val	625	630	635	640
Leu	Pro	Pro	Tyr	Ser	Thr	Phe	Tyr	Leu	Gln	Ala	Asn	Leu	Ser	Asp	Gln	645	650	655	
Ile	Leu	Gln	Val	Lys	Tyr	Phe	Glu	Phe	Leu	Leu	Pro	Ser	Ser	Phe	Glu	660	665	670	
Ser	Glu	Gly	His	Val	Phe	Ile	Ala	Pro	Arg	Glu	Tyr	Cys	Lys	Asp	Leu	675	680	685	
Asn	Ala	Ser	Asp	Asn	Asn	Thr	Glu	Phe	Leu	Lys	Asn	Phe	Ile	Glu	Leu	690	695	700	
Met	Glu	Lys	Val	Thr	Pro	Asp	Ser	Lys	Gln	Cys	Asn	Asn	Phe	Leu	Leu	705	710	715	720
His	Asn	Leu	Ile	Leu	Asp	Thr	Gly	Ile	Thr	Gln	Gln	Leu	Val	Glu	Arg	725	730	735	
Val	Trp	Arg	Asp	Gln	Asp	Leu	Asn	Thr	Tyr	Ser	Leu	Leu	Ala	Val	Phe	740	745	750	
Ala	Ala	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Phe	Pro	Asn	Lys	Ala	Ala	755	760	765	
Glu	Asp	Trp	Thr	Glu	Asn	Pro	Glu	Pro	Phe	Asn	Ala	Ser	Phe	Tyr	Arg	770	775	780	
Arg	Ser	Leu	Asp	Asn	His	Gly	Tyr	Val	Phe	Lys	Pro	Pro	His	Gln	Asp	785	790	795	800
Ala	Leu	Leu	Arg	Pro	Leu	Glu	Leu	Glu	Asn	Asp	Thr	Val	Gly	Ile	Leu	805	810	815	
Val	Ser	Thr	Ala	Val	Glu	Leu	Ser	Leu	Gly	Arg	Arg	Thr	Leu	Arg	Pro	820	825	830	
Ala	Val	Val	Gly	Val	Lys	Leu	Asp	Leu	Glu	Ala	Trp	Ala	Glu	Lys	Phe	835	840	845	
Lys	Val	Leu	Ala	Ser	Asn	Arg	Thr	His	Gln	Asp	Gln	Pro	Gln	Lys	Cys	850	855	860	
Gly	Pro	Asn	Ser	His	Cys	Glu	Met	Asp	Cys	Glu	Val	Asn	Asn	Glu	Asp	865	870	875	880

Leu Leu Cys Val Leu Ile Asp Asp Gly Gly Phe Leu Val Leu Ser Asn
885 890 895

Gln Asn His Gln Trp Asp Gln Val Gly Arg Phe Phe Ser Glu Val Asp
900 905 910

Ala Asn Leu Met Leu Ala Leu Tyr Asn Asn Ser Phe Tyr Thr Arg Lys
915 920 925

Glu Ser Tyr Asp Tyr Gln Ala Ala Cys Ala Pro Gln Pro Pro Gly Asn
930 935 940

Leu Gly Ala Ala Pro Arg Gly Val Phe Val Pro Thr Val Ala Asp Phe
945 950 955 960

Leu Asn Leu Ala Trp Trp Thr Ser Ala Ala Ala Trp Ser Leu Phe Gln
965 970 975

Gln Leu Leu Tyr Gly Leu Ile Tyr His Ser Trp Phe Gln Ala Asp Pro
980 985 990

Ala Glu Ala Glu Gly Ser Pro Glu Thr Arg Glu Ser Ser Cys Val Met
995 1000 1005

Lys Gln Thr Gln Tyr Tyr Phe Gly Ser Val Asn Ala Ser Tyr Asn Ala
1010 1015 1020

Ile Ile Asp Cys Gly Asn Cys Ser Arg Leu Phe His Ala Gln Arg Leu
1025 1030 1035 1040

Thr Asn Thr Asn Leu Leu Phe Val Val Ala Glu Lys Pro Leu Cys Ser
1045 1050 1055

Gln Cys Glu Ala Gly Arg
1060

<210> 5

<211> 1082

<212> PRT

<213> Homo sapiens

<400> 5

Met Ala Val Pro Ala Arg Thr Cys Gly Ala Ser Arg Pro Gly Pro Ala
1 5 10 15

Arg Thr Ala Arg Pro Trp Pro Gly Cys Gly Pro His Pro Gly Pro Gly
20 25 30

Thr Arg Arg Pro Thr Ser Gly Pro Pro Arg Pro Leu Trp Leu Leu Leu
 35 40 45
 Pro Leu Leu Pro Leu Leu Ala Ala Pro Gly Ala Ser Ala Tyr Ser Phe
 50 55 60
 Pro Gln Gln His Thr Met Gln His Trp Ala Arg Arg Leu Glu Gln Glu
 65 70 75 80
 Val Asp Gly Val Met Arg Ile Phe Gly Gly Val Gln Gln Leu Arg Glu
 85 90 95
 Ile Tyr Lys Asp Asn Arg Asn Leu Phe Glu Val Gln Glu Asn Glu Pro
 100 105 110
 Gln Lys Leu Val Glu Lys Val Ala Gly Asp Ile Glu Ser Leu Leu Asp
 115 120 125
 Arg Lys Val Gln Ala Leu Lys Arg Leu Ala Asp Ala Ala Glu Asn Phe
 130 135 140
 Gln Lys Ala His Arg Trp Gln Asp Asn Ile Lys Glu Glu Asp Ile Val
 145 150 155 160
 Tyr Tyr Asp Ala Lys Ala Asp Ala Glu Leu Asp Asp Pro Glu Ser Glu
 165 170 175
 Asp Val Glu Arg Gly Ser Lys Ala Ser Thr Leu Arg Leu Asp Phe Ile
 180 185 190
 Glu Asp Pro Asn Phe Lys Asn Lys Val Asn Tyr Ser Tyr Ala Ala Val
 195 200 205
 Gln Ile Pro Thr Asp Ile Tyr Lys Gly Ser Thr Val Ile Leu Asn Glu
 210 215 220
 Leu Asn Trp Thr Glu Ala Leu Glu Asn Val Phe Met Glu Asn Arg Arg
 225 230 235 240
 Gln Asp Pro Thr Leu Leu Trp Gln Val Phe Gly Ser Ala Thr Gly Val
 245 250 255
 Thr Arg Tyr Tyr Pro Ala Thr Pro Trp Arg Ala Pro Lys Lys Ile Asp
 260 265 270
 Leu Tyr Asp Val Arg Arg Arg Pro Trp Tyr Ile Gln Gly Ala Ser Ser
 275 280 285

Pro Lys Asp Met Val Ile Ile Val Asp Val Ser Gly Ser Val Ser Gly
 290 295 300

Leu Thr Leu Lys Leu Met Lys Thr Ser Val Cys Glu Met Leu Asp Thr
 305 310 315 320

Leu Ser Asp Asp Asp Tyr Val Asn Val Ala Ser Phe Asn Glu Lys Ala
 325 330 335

Gln Pro Val Ser Cys Phe Thr His Leu Val Gln Ala Asn Val Arg Asn
 340 345 350

Lys Lys Val Phe Lys Glu Ala Val Gln Gly Met Val Ala Lys Gly Thr
 355 360 365

Thr Gly Tyr Lys Ala Gly Phe Glu Tyr Ala Phe Asp Gln Leu Gln Asn
 370 375 380

Ser Asn Ile Thr Arg Ala Asn Cys Asn Lys Met Ile Met Met Phe Thr
 385 390 395 400

Asp Gly Gly Glu Asp Arg Val Gln Asp Val Phe Glu Lys Tyr Asn Trp
 405 410 415

Pro Asn Arg Thr Val Arg Val Phe Thr Phe Ser Val Gly Gln His Asn
 420 425 430

Tyr Asp Val Thr Pro Leu Gln Trp Met Ala Cys Ala Asn Lys Gly Tyr
 435 440 445

Tyr Phe Glu Ile Pro Ser Ile Gly Ala Ile Arg Ile Asn Thr Gln Glu
 450 455 460

Tyr Leu Asp Val Leu Gly Arg Pro Met Val Leu Ala Gly Lys Glu Ala
 465 470 475 480

Lys Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu Gly Leu Gly
 485 490 495

Leu Val Val Thr Gly Thr Leu Pro Val Phe Asn Leu Thr Gln Asp Gly
 500 505 510

Pro Gly Glu Lys Lys Asn Gln Leu Ile Leu Gly Val Met Gly Ile Asp
 515 520 525

Val Ala Leu Asn Asp Ile Lys Arg Leu Thr Pro Asn Tyr Thr Leu Gly
 530 535 540

Ala Asn Gly Tyr Val Phe Ala Ile Asp Leu Asn Gly Tyr Val Leu Leu			
545	550	555	560
His Pro Asn Leu Lys Pro Gln Thr Thr Asn Phe Arg Glu Pro Val Thr			
	565	570	575
Leu Asp Phe Leu Asp Ala Glu Leu Glu Asp Glu Asn Lys Glu Glu Ile			
	580	585	590
Arg Arg Ser Met Ile Asp Gly Asn Lys Gly His Lys Gln Ile Arg Thr			
	595	600	605
Leu Val Lys Ser Leu Asp Glu Arg Tyr Ile Asp Glu Val Thr Arg Asn			
610	615	620	
Tyr Thr Trp Val Pro Ile Arg Ser Thr Asn Tyr Ser Leu Gly Leu Val			
625	630	635	640
Leu Pro Pro Tyr Ser Thr Phe Tyr Leu Gln Ala Asn Leu Ser Asp Gln			
	645	650	655
Ile Leu Gln Val Lys Tyr Phe Glu Phe Leu Leu Pro Ser Ser Phe Glu			
	660	665	670
Ser Glu Gly His Val Phe Ile Ala Pro Arg Glu Tyr Cys Lys Asp Leu			
	675	680	685
Asn Ala Ser Asp Asn Asn Thr Glu Phe Leu Lys Asn Phe Ile Glu Leu			
690	695	700	
Met Glu Lys Val Thr Pro Asp Ser Lys Gln Cys Asn Asn Phe Leu Leu			
705	710	715	720
His Asn Leu Ile Leu Asp Thr Gly Ile Thr Gln Gln Leu Val Glu Arg			
	725	730	735
Val Trp Arg Asp Gln Asp Leu Asn Thr Tyr Ser Leu Leu Ala Val Phe			
	740	745	750
Ala Ala Thr Asp Gly Gly Ile Thr Arg Val Phe Pro Asn Lys Ala Ala			
	755	760	765
Glu Asp Trp Thr Glu Asn Pro Glu Pro Phe Asn Ala Ser Phe Tyr Arg			
770	775	780	
Arg Ser Leu Asp Asn His Gly Tyr Val Phe Lys Pro Pro His Gln Asp			
785	790	795	800

Ala	Leu	Leu	Arg	Pro	Leu	Glu	Leu	Glu	Asn	Asp	Thr	Val	Gly	Ile	Leu	805	810	815	
Val	Ser	Thr	Ala	Val	Glu	Leu	Ser	Leu	Gly	Arg	Arg	Thr	Leu	Arg	Pro	820	825	830	
Ala	Val	Val	Gly	Val	Lys	Leu	Asp	Leu	Glu	Ala	Trp	Ala	Glu	Lys	Phe	835	840	845	
Lys	Val	Leu	Ala	Ser	Asn	Arg	Thr	His	Gln	Asp	Gln	Pro	Gln	Lys	Cys	850	855	860	
Gly	Pro	Asn	Ser	His	Cys	Glu	Met	Asp	Cys	Glu	Val	Asn	Asn	Glu	Asp	865	870	875	880
Leu	Leu	Cys	Val	Leu	Ile	Asp	Asp	Gly	Gly	Phe	Leu	Val	Leu	Ser	Asn	885	890	895	
Gln	Asn	His	Gln	Trp	Asp	Gln	Val	Gly	Arg	Phe	Phe	Ser	Glu	Val	Asp	900	905	910	
Ala	Asn	Leu	Met	Leu	Ala	Leu	Tyr	Asn	Asn	Ser	Phe	Tyr	Thr	Arg	Lys	915	920	925	
Glu	Ser	Tyr	Asp	Tyr	Gln	Ala	Ala	Cys	Ala	Pro	Gln	Pro	Pro	Gly	Asn	930	935	940	
Leu	Gly	Ala	Ala	Pro	Arg	Gly	Val	Phe	Val	Pro	Thr	Val	Ala	Asp	Phe	945	950	955	960
Leu	Asn	Leu	Ala	Trp	Trp	Thr	Ser	Ala	Ala	Ala	Trp	Ser	Leu	Phe	Gln	965	970	975	
Gln	Leu	Leu	Tyr	Gly	Leu	Ile	Tyr	His	Ser	Trp	Phe	Gln	Ala	Asp	Pro	980	985	990	
Ala	Glu	Ala	Glu	Gly	Ser	Pro	Glu	Thr	Arg	Glu	Ser	Ser	Cys	Val	Met	995	1000	1005	
Lys	Gln	Thr	Gln	Tyr	Tyr	Phe	Gly	Ser	Val	Asn	Ala	Ser	Tyr	Asn	Ala	1010	1015	1020	
Ile	Ile	Asp	Cys	Gly	Asn	Cys	Ser	Arg	Leu	Phe	His	Ala	Gln	Arg	Leu	1025	1030	1035	1040
Thr	Asn	Thr	Asn	Leu	Leu	Phe	Val	Val	Ala	Glu	Lys	Pro	Leu	Cys	Ser	1045	1050	1055	

Gln Cys Glu Ala Gly Arg Leu Leu Gln Lys Glu Thr His Cys Pro Ala
1060 1065 1070

Asp Gly Pro Glu Gln Cys Glu Leu Val Gln
1075 1080

<210> 6
<211> 1109
<212> PRT
<213> Homo sapiens

<400> 6
Met Ala Val Pro Ala Arg Thr Cys Gly Ala Ser Arg Pro Gly Pro Ala
1 5 10 15

Arg Thr Ala Arg Pro Trp Pro Gly Cys Gly Pro His Pro Gly Pro Gly
20 25 30

Thr Arg Arg Pro Thr Ser Gly Pro Pro Arg Pro Leu Trp Leu Leu Leu
35 40 45

Pro Leu Leu Pro Leu Leu Ala Ala Pro Gly Ala Ser Ala Tyr Ser Phe
50 55 60

Pro Gln Gln His Thr Met Gln His Trp Ala Arg Arg Leu Glu Gln Glu
65 70 75 80

Val Asp Gly Val Met Arg Ile Phe Gly Gly Val Gln Gln Leu Arg Glu
85 90 95

Ile Tyr Lys Asp Asn Arg Asn Leu Phe Glu Val Gln Glu Asn Glu Pro
100 105 110

Gln Lys Leu Val Glu Lys Val Ala Gly Asp Ile Glu Ser Leu Leu Asp
115 120 125

Arg Lys Val Gln Ala Leu Lys Arg Leu Ala Asp Ala Ala Glu Asn Phe
130 135 140

Gln Lys Ala His Arg Trp Gln Asp Asn Ile Lys Glu Glu Asp Ile Val
145 150 155 160

Tyr Tyr Asp Ala Lys Ala Asp Ala Glu Leu Asp Asp Pro Glu Ser Glu
165 170 175

Asp Val Glu Arg Gly Ser Lys Ala Ser Thr Leu Arg Leu Asp Phe Ile

180					185					190					
Glu	Asp	Pro	Asn	Phe	Lys	Asn	Lys	Val	Asn	Tyr	Ser	Tyr	Ala	Ala	Val
195					200					205					
Gln	Ile	Pro	Thr	Asp	Ile	Tyr	Lys	Gly	Ser	Thr	Val	Ile	Leu	Asn	Glu
210					215					220					
Leu	Asn	Trp	Thr	Glu	Ala	Leu	Glu	Asn	Val	Phe	Met	Glu	Asn	Arg	Arg
225					230					235 240					
Gln	Asp	Pro	Thr	Leu	Leu	Trp	Gln	Val	Phe	Gly	Ser	Ala	Thr	Gly	Val
245					250					255					
Thr	Arg	Tyr	Tyr	Pro	Ala	Thr	Pro	Trp	Arg	Ala	Pro	Lys	Lys	Ile	Asp
260					265					270					
Leu	Tyr	Asp	Val	Arg	Arg	Arg	Pro	Trp	Tyr	Ile	Gln	Gly	Ala	Ser	Ser
275					280					285					
Pro	Lys	Asp	Met	Val	Ile	Ile	Val	Asp	Val	Ser	Gly	Ser	Val	Ser	Gly
290					295					300					
Leu	Thr	Leu	Lys	Leu	Met	Lys	Thr	Ser	Val	Cys	Glu	Met	Leu	Asp	Thr
305					310					315 320					
Leu	Ser	Asp	Asp	Asp	Tyr	Val	Asn	Val	Ala	Ser	Phe	Asn	Glu	Lys	Ala
325					330					335					
Gln	Pro	Val	Ser	Cys	Phe	Thr	His	Leu	Val	Gln	Ala	Asn	Val	Arg	Asn
340					345					350					
Lys	Lys	Val	Phe	Lys	Glu	Ala	Val	Gln	Gly	Met	Val	Ala	Lys	Gly	Thr
355					360					365					
Thr	Gly	Tyr	Lys	Ala	Gly	Phe	Glu	Tyr	Ala	Phe	Asp	Gln	Leu	Gln	Asn
370					375					380					
Ser	Asn	Ile	Thr	Arg	Ala	Asn	Cys	Asn	Lys	Met	Ile	Met	Met	Phe	Thr
385					390					395 400					
Asp	Gly	Gly	Glu	Asp	Arg	Val	Gln	Asp	Val	Phe	Glu	Lys	Tyr	Asn	Trp
405					410					415					
Pro	Asn	Arg	Thr	Val	Arg	Val	Phe	Thr	Phe	Ser	Val	Gly	Gln	His	Asn
420					425					430					
Tyr	Asp	Val	Thr	Pro	Leu	Gln	Trp	Met	Ala	Cys	Ala	Asn	Lys	Gly	Tyr

435		440		445
Tyr Phe Glu Ile Pro Ser Ile Gly Ala Ile Arg Ile Asn Thr Gln Glu				
450		455		460
Tyr Leu Asp Val Leu Gly Arg Pro Met Val Leu Ala Gly Lys Glu Ala				
465		470		475
				480
Lys Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu Gly Leu Gly				
	485		490	495
Leu Val Val Thr Gly Thr Leu Pro Val Phe Asn Leu Thr Gln Asp Gly				
	500		505	510
Pro Gly Glu Lys Lys Asn Gln Leu Ile Leu Gly Val Met Gly Ile Asp				
	515		520	525
Val Ala Leu Asn Asp Ile Lys Arg Leu Thr Pro Asn Tyr Thr Leu Gly				
	530		535	540
Ala Asn Gly Tyr Val Phe Ala Ile Asp Leu Asn Gly Tyr Val Leu Leu				
545		550		555
				560
His Pro Asn Leu Lys Pro Gln Thr Thr Asn Phe Arg Glu Pro Val Thr				
	565		570	575
Leu Asp Phe Leu Asp Ala Glu Leu Glu Asp Glu Asn Lys Glu Glu Ile				
	580		585	590
Arg Arg Ser Met Ile Asp Gly Asn Lys Gly His Lys Gln Ile Arg Thr				
	595		600	605
Leu Val Lys Ser Leu Asp Glu Arg Tyr Ile Asp Glu Val Thr Arg Asn				
	610		615	620
Tyr Thr Trp Val Pro Ile Arg Ser Thr Asn Tyr Ser Leu Gly Leu Val				
625		630		635
				640
Leu Pro Pro Tyr Ser Thr Phe Tyr Leu Gln Ala Asn Leu Ser Asp Gln				
	645		650	655
Ile Leu Gln Val Lys Tyr Phe Glu Phe Leu Leu Pro Ser Ser Phe Glu				
	660		665	670
Ser Glu Gly His Val Phe Ile Ala Pro Arg Glu Tyr Cys Lys Asp Leu				
	675		680	685
Asn Ala Ser Asp Asn Asn Thr Glu Phe Leu Lys Asn Phe Ile Glu Leu				

690		695		700															
Met	Glu	Lys	Val	Thr	Pro	Asp	Ser	Lys	Gln	Cys	Asn	Asn	Phe	Leu	Leu				
705					710					715					720				
His	Asn	Leu	Ile	Leu	Asp	Thr	Gly	Ile	Thr	Gln	Gln	Leu	Val	Glu	Arg				
				725					730					735					
Val	Trp	Arg	Asp	Gln	Asp	Leu	Asn	Thr	Tyr	Ser	Leu	Leu	Ala	Val	Phe				
			740					745						750					
Ala	Ala	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Phe	Pro	Asn	Lys	Ala	Ala				
		755					760					765							
Glu	Asp	Trp	Thr	Glu	Asn	Pro	Glu	Pro	Phe	Asn	Ala	Ser	Phe	Tyr	Arg				
	770					775					780								
Arg	Ser	Leu	Asp	Asn	His	Gly	Tyr	Val	Phe	Lys	Pro	Pro	His	Gln	Asp				
785					790					795					800				
Ala	Leu	Leu	Arg	Pro	Leu	Glu	Leu	Glu	Asn	Asp	Thr	Val	Gly	Ile	Leu				
			805						810					815					
Val	Ser	Thr	Ala	Val	Glu	Leu	Ser	Leu	Gly	Arg	Arg	Thr	Leu	Arg	Pro				
			820						825					830					
Ala	Val	Val	Gly	Val	Lys	Leu	Asp	Leu	Glu	Ala	Trp	Ala	Glu	Lys	Phe				
		835					840					845							
Lys	Val	Leu	Ala	Ser	Asn	Arg	Thr	His	Gln	Asp	Gln	Pro	Gln	Lys	Cys				
	850					855					860								
Gly	Pro	Asn	Ser	His	Cys	Glu	Met	Asp	Cys	Glu	Val	Asn	Asn	Glu	Asp				
865					870					875					880				
Leu	Leu	Cys	Val	Leu	Ile	Asp	Asp	Gly	Gly	Phe	Leu	Val	Leu	Ser	Asn				
			885						890					895					
Gln	Asn	His	Gln	Trp	Asp	Gln	Val	Gly	Arg	Phe	Phe	Ser	Glu	Val	Asp				
		900						905					910						
Ala	Asn	Leu	Met	Leu	Ala	Leu	Tyr	Asn	Asn	Ser	Phe	Tyr	Thr	Arg	Lys				
		915					920					925							
Glu	Ser	Tyr	Asp	Tyr	Gln	Ala	Ala	Cys	Ala	Pro	Gln	Pro	Pro	Gly	Asn				
	930					935					940								
Leu	Gly	Ala	Ala	Pro	Arg	Gly	Val	Phe	Val	Pro	Thr	Val	Ala	Asp	Phe				

945	950	955	960
Leu Asn Leu Ala Trp Trp Thr Ser Ala Ala Ala Trp Ser Leu Phe Gln			
	965	970	975
Gln Leu Leu Tyr Gly Leu Ile Tyr His Ser Trp Phe Gln Ala Asp Pro			
	980	985	990
Ala Glu Ala Glu Gly Ser Pro Glu Thr Arg Glu Ser Ser Cys Val Met			
	995	1000	1005
Lys Gln Thr Gln Tyr Tyr Phe Gly Ser Val Asn Ala Ser Tyr Asn Ala			
	1010	1015	1020
Ile Ile Asp Cys Gly Asn Cys Ser Arg Leu Phe His Ala Gln Arg Leu			
	1025	1030	1035
			1040
Thr Asn Thr Asn Leu Leu Phe Val Val Ala Glu Lys Pro Leu Cys Ser			
	1045	1050	1055
Gln Cys Glu Ala Gly Arg Leu Leu Gln Lys Glu Thr His Cys Pro Ala			
	1060	1065	1070
Asp Gly Pro Glu Gln Cys Glu Leu Val Gln Arg Pro Arg Tyr Arg Arg			
	1075	1080	1085
Gly Pro His Ile Cys Phe Asp Tyr Asn Ala Thr Glu Asp Thr Ser Asp			
	1090	1095	1100
Cys Gly Arg Gly Ala			
1105			

<210> 7

<211> 3057

<212> DNA

<213> Homo sapiens

<400> 7

```

atggccgggc cgggctcgcc ggcgcgcgcg tcccgggggg cctcggcgct tctcgctgcc 60
gcgcttctct acgcgcgcgt gggggacgtg gtgcgctcgg agcagcagat accgctctcc 120
gtggtgaagc tctgggcctc ggcttttggt ggggagataa aatccattgc tgctaagtac 180
tccggttccc agcttctgca aaagaaatac aaagagtatg agaaagacgt tgccatagaa 240
gaaattgatg gcctccaact ggtaaagaag ctggcaaaga acatggaaga gatgtttcac 300
aagaagtctg aggcgcgtcag gcgtctggtg gaggctgcag aagaagcaca cctgaaacat 360
gaatttgatg cagacttaca gtatgaatac ttcaatgctg tgctgataaa tgaaagggac 420
aaagacggga attttttgga gctgggaaag gaattcatct tagcccaaaa tgaccatttt 480
aataatttgc ctgtgaacat cagtctaagt gacgtccaag taccaacgaa catgtacaac 540

```

aaagaccctg	caattgtcaa	tggggtttat	tggctctgaat	ctctaaacaa	agttttttgta	600
gataactttg	accgtgaccc	atctctcata	tggcagtact	ttggaagtgc	aaagggcctt	660
tttaggcagt	atccggggat	taaatgggaa	ccagatgaga	atggagtcac	tgccttcgac	720
tgcaggaacc	gaaaatggta	catccaggca	gcaacttctc	cgaaagacgt	ggtcattttta	780
gttgacgtca	gtggcagcat	gaaaggactc	cgtctgacta	tcgcgaagca	aacagtctca	840
tccatttttg	atacacttgg	ggatgatgac	ttcttcaaca	taattgctta	taatgaggag	900
cttcactatg	tggaaccttg	cctgaatgga	actttggtgc	aagccgacag	gacaaacaaa	960
gagcacttca	gggagcatct	ggacaaaactt	ttcgccaaag	gaattggaat	gttgatata	1020
gctctgaatg	aggccttcaa	cattctgagt	gatttcaacc	acacgggaca	aggaagtatc	1080
tgcagtcagg	ccatcatgct	cataactgat	ggggcgggtg	acacctatga	tacaatcttt	1140
gcaaaataca	attggccaga	tcgaaagggt	cgcatcttca	catacctcat	tggacgagag	1200
gctgcgtttg	cagacaatct	aaagtggatg	gcctgtgcc	acaaaggatt	ttttaccag	1260
atctccacct	tggctgatgt	gcaggagaat	gtcatggaat	accttcacgt	gcttagccgg	1320
cccaaagtca	tcgaccagga	gcatgatgtg	gtgtggaccg	aagcttacat	tgacagcact	1380
ctgactgatg	atcagggccc	cgtcctgatg	accactgtag	ccatgcctgt	gtttagtaag	1440
cagaacgaaa	ccagatcgaa	gggcattctt	ctgggagtgg	ttggcacaga	tgtcccagtg	1500
aaagaacttc	tgaagaccat	ccccaaatac	aagttaggga	ttcacggtta	tgcctttgca	1560
atcacaaata	atgggtatat	cctgacgcat	ccggaactca	ggctgctgta	cgaagaagga	1620
aaaaagcgaa	ggaaacctaa	ctatagtagc	gttgacctct	ctgaggtgga	gtgggaagac	1680
cgagatgacg	tgttgagaaa	tgctatggtg	aatcgaaaga	cggggaagtt	ttccatggag	1740
gtgaagaaga	cagtggacaa	agggaaacgg	gttttgggtg	tgacaaatga	ctactattat	1800
acagacatca	agggtactcc	tttcagttta	ggtgtggcgc	tttcagagg	tcattgggaaa	1860
tatttcttcc	gagggaatgt	aaccatcgaa	gaaggcctgc	atgacttaga	acatcccgat	1920
gtgtccttgg	cagatgaatg	gtcctactgc	aacactgacc	tacaccctga	gcaccgccat	1980
ctgtctcagt	tagaagcgat	taagctctac	ctaaaaggca	aagaacctct	gctccagtgt	2040
gataaagaat	tgatccaaga	agtccttttt	gacgcggtgg	tgagtgtccc	cattgaagcg	2100
tattggacca	gcctggccct	caacaaatct	gaaaattctg	acaagggcgt	ggaggttgcc	2160
ttcctcggca	ctcgcacggg	cctctccaga	atcaacctgt	ttgtcggggc	tgagcagctc	2220
accaatcagg	acttcctgaa	agctggcgac	aaggagaaca	tttttaacgc	agaccatttc	2280
cctctctggg	accgaagagc	cgctgagcag	attccaggga	gcttcgtcta	ctcgatccca	2340
ttcagcactg	gaccagtcaa	taaaagcaat	gtggtgacag	caagtacatc	catccagctc	2400
ctggatgaac	ggaaatctcc	tgtggtggca	gctgtaggca	ttcagatgaa	acttgaattt	2460
ttccaaagga	agttctggac	tgccagcaga	cagtgtgctt	ccctggatgg	caaagtctcc	2520
atcagctgtg	atgatgagac	tgtgaattgt	tacctcatag	acaataatgg	atttattttg	2580
gtgtctgaag	actacacaca	gactggagac	ttttttggtg	agatcgaggg	agctgtgatg	2640
aacaaattgc	taacaatggg	ctcctttaaa	agaattaccc	tttatgacta	ccaagccatg	2700
tgtagagcca	acaaggaaag	cagcgatggc	gcccattggc	tcctggatcc	ttataatgcc	2760
ttcctctctg	cagtaaaatg	gatcatgaca	gaacttgtct	tgttcctggg	ggaatttaac	2820
ctctgcagtt	ggtggcactc	cgatatgaca	gctaaagccc	agaaattgaa	acagaccctg	2880
gagccttgtg	atactgaata	tccagcattc	gtctctgagc	gcaccatcaa	ggagactaca	2940
gggaatattg	cttgtgaaga	ctgctccaag	tcctttgtca	tccagcaaat	cccaagcagc	3000
aacctgttca	tgggtggtgt	ggacagcagc	tgccctctgtg	aatctgtggc	ccccatc	3057

<210> 8

<211> 3114

<212> DNA

<213> Homo sapiens

<400> 8

atggccgggc cgggctcgcc gcgcccgcgcg tcccgggggg cctcggcgct tctcgctgcc 60
gcgcttctct acgccgcgct gggggacgtg gtgcgctcgg agcagcagat accgctctcc 120
gtggtgaagc tctgggcctc ggcttttggt ggggagataa aatccattgc tgctaagtac 180
tccggttccc agcttctgca aaagaaatac aaagagtatg agaaagacgt tgccatagaa 240
gaaattgatg gcctccaact ggtaaagaag ctggcaaaga acatggaaga gatgtttcac 300
aagaagtctg aggccgtcag gcgtctggtg gaggtgcag aagaagcaca cctgaaacat 360
gaatttgatg cagacttaca gtatgaatac ttcaatgctg tgctgataaa tgaaagggac 420
aaagacggga attttttgga gctgggaaag gaattcatct tagccccaaa tgaccatttt 480
aataatttgc ctgtgaacat cagtctaagt gacgtccaag taccaacgaa catgtacaac 540
aaagaccctg caattgtcaa tggggtttat tggctgaat ctctaaacaa agtttttgta 600
gataactttg accgtgacct atctctcata tggcagtgact ttggaagtgc aaagggcttt 660
tttaggcagt atccggggat taaatgggaa ccagatgaga atggagtcac tgccttcgac 720
tgcaggaacc gaaaatggta catccaggca gcaacttctc cgaaagacgt ggtcatttta 780
gttgacgtca gtggcagcat gaaaggactc cgtctgacta tcgcgaagca aacagtctca 840
tccatttttg atacacttgg ggatgatgac ttcttcaaca taattgctta taatgaggag 900
cttactatg tggaacctg cctgaatgga actttggtgc aagccgacag gacaaacaaa 960
gagcacttca gggagcatct ggacaaactt ttcgcaaag gaattggaat gttggatata 1020
gctctgaatg aggccttcaa cattctgagt gatttcaacc acacgggaca aggaagtatc 1080
tgcatcgagg ccatcatgct cataactgat gggcggtgg acacctatga tacaatcttt 1140
gcaaaataca attggccaga tcgaaagggt cgcacttca catacctcat tggacgagag 1200
gctgcgtttg cagacaatct aaagtggatg gcctgtgcc acaaaggatt ttttaccag 1260
atctccacct tggctgatgt gcaggagaat gtcatggaat accttcacgt gcttagccgg 1320
cccaaagtca tcgaccagga gcatgatgtg gtgtggaccg aagcttacat tgacagcact 1380
ctgactgatg atcagggccc cgtcctgatg accactgtag ccatgcctgt gtttagtaag 1440
cagaacgaaa ccagatcgaa gggcattctt ctgggagtgg ttggcacaga tgtcccagtg 1500
aaagaacttc tgaagaccat ccccaaatac aagttagga ttacagggtta tgcctttgca 1560
atcacaata atggrtatat cctgacgcat ccggaactca ggctgctgta cgaagaagga 1620
aaaaagcgaa ggaaacctaa ctatagtagc gttgacctct ctgaggtgga gtgggaagac 1680
cgagatgacg tgttgagaaa tgctatggtg aatcgaaaga cggggaagt ttccatggag 1740
gtgaagaaga cagtggacaa agggaaacgg gttttggtga tgacaaatga ctactattat 1800
acagacatca agggacttcc tttcagttta ggtgtggcgc tttccagagg tcatgggaaa 1860
tatttcttcc gagggaatgt aaccatcgaa gaaggcctgc atgacttaga acatccgat 1920
gtgtccttgg cagatgaatg gtcctactgc aacactgacc tacacctga gcaccgcat 1980
ctgtctcagt tagaagcgat taagctctac ctaaaaggca aagaacctct gctccagtgt 2040
gataaagaat tgatccaaga agtccctttt gacgcggtgg tgagtgcgcc cattgaagcg 2100
tattggacca gcctggccct caacaaatct gaaaattctg acaagggcgt ggaggttgcc 2160
ttcctcggca ctgcacggg cctctccaga atcaacctgt ttgtcggggc tgagcagctc 2220
accaatcagg acttcttgaa agctggcgac aaggagaaca tttttaacgc agaccatttc 2280
cctctctggg accgaagagc cgctgagcag attccaggga gcttcgtcta ctgatccca 2340
ttcagcactg gaccagtcaa taaaagcaat gtggtgacag caagtacatc catccagctc 2400
ctggatgaac ggaaatctcc tgtggtggca gctgtaggca ttcagatgaa acttgaattt 2460
ttccaaagga agttctggac tgccagcaga cagtgtgctt ccttgatgg caaatgctcc 2520
atcagctgtg atgatgagac tgtgaattgt tacctcatag acaataatgg atttattttg 2580
gtgtctgaag actacacaca gactggagac ttttttggtg agatcgaggg agctgtgatg 2640
aacaatttgc taacaatggg ctcttttaaa agaattaccc tttatgacta ccaagccatg 2700
tgtagagcca acaaggaaag cagcgatggc gcccatggcc tcctggatcc ttataatgcc 2760

ttcctctctg	cagtaaaatg	gatcatgaca	gaacttgtct	tgttcctggt	ggaatttaac	2820
ctctgcagtt	ggtggcactc	cgatatgaca	gctaaagccc	agaaattgaa	acagaccctg	2880
gagccttggt	atactgaata	tccagcattc	gtctctgagc	gcaccatcaa	ggagactaca	2940
gggaatattg	cttgtgaaga	ctgctccaag	tcctttgtca	tccagcaa	cccaagcagc	3000
aacctgttca	tggtgggtgt	ggacagcagc	tgctctgtgt	aatctgtggc	ccccatcacc	3060
atggcaccca	ttgaaatcag	gtataatgaa	tcctttaagt	gtgaacgtct	aaag	3114

<210> 9

<211> 3213

<212> DNA

<213> Homo sapiens

<400> 9

atggccgggc	cgggctcgcc	gcgccgcgcg	tcccgggggg	cctcggcgct	tctcgctgcc	60
gcgcttctct	acgccgcgct	gggggacgtg	gtgcgctcgg	agcagcagat	accgctctcc	120
gtggtgaagc	tctgggcctc	ggcttttggg	ggggagataa	aatccattgc	tgctaagtac	180
tccggttccc	agcttctgca	aaagaaatac	aaagagtatg	agaaagacgt	tgccatagaa	240
gaaattgatg	gcctccaact	ggtaaagaag	ctggcaaaga	acatggaaga	gatgtttcac	300
aagaagtctg	aggccgtcag	gcgtctggtg	gaggctgcag	aagaagcaca	cctgaaacat	360
gaatttgatg	cagacttaca	gtatgaatac	ttcaatgctg	tgctgataaa	tgaaagggac	420
aaagacggga	atTTTTTgga	gctgggaaag	gaattcatct	tagcccaaaa	tgaccatttt	480
aataatttgc	ctgtgaacat	cagtctaagt	gacgtccaag	taccaacgaa	catgtacaac	540
aaagaccctg	caattgtcaa	tggggtttat	tggtctgaat	ctctaaacaa	agtttttcta	600
gataactttg	accgtgaccc	atctctcata	tggcagtgct	ttggaagtgc	aaagggcttt	660
tttaggcagt	atccggggat	taaatgggaa	ccagatgaga	atggagtcac	tgcttctgac	720
tgcaggaacc	gaaaatggta	catccaggca	gcaacttctc	cgaagacgtg	ggctatttta	780
gttgacgtca	gtggcagcat	gaaaggactc	cgtctgacta	tcggaagca	aacagtctca	840
tccatttttg	atacatttgg	ggatgatgac	ttcttcaaca	taattgctta	taatgaggag	900
cttactatg	tggaaccttg	cctgaatgga	actttggtgc	aagccgacag	gacaaacaaa	960
gagcacttca	gggagcatct	ggacaaaact	ttcgccaaag	gaattggaat	gttggatata	1020
gctctgaatg	aggccttcaa	cattctgagt	gatttcaacc	acacgggaca	aggaagtatc	1080
tgcagtcagg	ccatcatgct	cataactgat	ggggcggtgg	acacctatga	tacaattctt	1140
gcaaaataca	attggccaga	tcgaaagggt	cgcacttcca	catacctcat	tggaagagag	1200
gctgcgtttg	cagacaatct	aaagtggatg	gcctgtgcca	acaaaggatt	ttttaccag	1260
atctccacct	tggtgatgtg	gcaggagaat	gtcatggaat	accttcacgt	gcttagccgg	1320
cccaaagtca	tcgaccagga	gcattgatgt	gtgtggaccg	aagcttacat	tgacagcact	1380
ctgactgatg	atcagggccc	cgtcctgatg	accactgtag	ccatgcctgt	gtttagtaag	1440
cagaacgaaa	ccagatcgaa	gggcattctt	ctgggagtg	ttggcacaga	tgtcccagtg	1500
aaagaacttc	tgaagaccat	ccccaaatac	aagttaggga	ttcacgggta	tgcttttgca	1560
atcacaaata	atgggtatat	cctgacgcac	ccggaactca	ggctgctgta	cgaagaagga	1620
aaaaagcgaa	ggaaacctaa	ctatagtagc	gttgacctct	ctgaggtgga	gtgggaagac	1680
cgagatgacg	tggtgagaaa	tgctatggtg	aatcgaaaga	cggggaagtt	ttccatggag	1740
gtgaagaaga	cagtggacaa	agggaaacgg	gttttggtga	tgacaaatga	ctactattat	1800
acagacatca	aggggtactcc	tttcagttta	ggtgtggcgc	tttccagagg	tcatgggaaa	1860
tattttcttc	gagggaaatgt	aaccatcgaa	gaaggcctgc	atgacttaga	acatcccgat	1920
gtgtccttgg	cagatgaatg	gtcctactgc	aacactgacc	tacaccctga	gcaccgccat	1980
ctgtctcagt	tagaagcgat	taagctctac	ctaaaaggca	aagaacctct	gctccagtgt	2040

```

gataaagaat tgatccaaga agtccttttt gacgcggtgg tgagtgcccc cattgaagcg 2100
tattggacca gcctggccct caacaaatct gaaaattctg acaagggcgt ggaggttgcc 2160
ttcctcggca ctgcacggg cctctccaga atcaacctgt ttgtcggggc tgagcagctc 2220
accaatcagg acttcctgaa agctggcgac aaggagaaca tttttaacgc agaccatttc 2280
cctctctggt accgaagagc cgctgagcag attccagga gcttcgtcta ctcatccca 2340
ttcagcactg gaccagtcaa taaaagcaat gtggtgacag caagtacatc catccagctc 2400
ctggatgaac ggaaatctcc tgtggtggca gctgtaggca ttcagatgaa acttgaattt 2460
ttccaaagga agttctggac tgccagcaga cagtgtgctt ccctggatgg caaatgctcc 2520
atcagctgtg atgatgagac tgtgaattgt tacctcatag acaataatgg atttattttg 2580
gtgtctgaag actacacaca gactggagac ttttttggtg agatcgaggg agctgtgatg 2640
aacaattgc taacaatggg ctcttttaa agaattaccc tttatgacta ccaagccatg 2700
tgtagagcca acaaggaaag cagcgatggc gcccatggcc tcctggatcc ttataatgcc 2760
ttcctctctg cagtaaaatg gatcatgaca gaacttgtct tgttcctggt ggaatttaac 2820
ctctgcagtt ggtggcactc cgatatgaca gctaaagccc agaaattgaa acagaccctg 2880
gagccttgtg atactgaata tccagcattc gtctctgagc gcaccatcaa ggagactaca 2940
gggaatattg cttgtgaaga ctgctccaag tcctttgtca tccagcaaat cccaagcagc 3000
aacctgttca tgggtggtggg ggacagcagc tgccctctgtg aatctgtggc ccccatcacc 3060
atggcaccca ttgaaatcag gtataatgaa tcccttaagt gtgaacgtct aaaggccag 3120
aagatcagaa gggccagaa gatcagaagg cgcccagaat cttgtcatgg cttccatcct 3180
gaggagaatg caagggagtg tgggggtgcg ccg 3213

```

<210> 10

<211> 1019

<212> PRT

<213> Homo sapiens

<400> 10

```

Met Ala Gly Pro Gly Ser Pro Arg Arg Ala Ser Arg Gly Ala Ser Ala
  1              5              10             15

Leu Leu Ala Ala Ala Leu Leu Tyr Ala Ala Leu Gly Asp Val Val Arg
      20              25             30

Ser Glu Gln Gln Ile Pro Leu Ser Val Val Lys Leu Trp Ala Ser Ala
      35              40             45

Phe Gly Gly Glu Ile Lys Ser Ile Ala Ala Lys Tyr Ser Gly Ser Gln
      50              55             60

Leu Leu Gln Lys Lys Tyr Lys Glu Tyr Glu Lys Asp Val Ala Ile Glu
      65              70             75             80

Glu Ile Asp Gly Leu Gln Leu Val Lys Lys Leu Ala Lys Asn Met Glu
      85              90             95

Glu Met Phe His Lys Lys Ser Glu Ala Val Arg Arg Leu Val Glu Ala
      100             105            110

```

Ala	Glu	Glu	Ala	His	Leu	Lys	His	Glu	Phe	Asp	Ala	Asp	Leu	Gln	Tyr	115	120	125	
Glu	Tyr	Phe	Asn	Ala	Val	Leu	Ile	Asn	Glu	Arg	Asp	Lys	Asp	Gly	Asn	130	135	140	
Phe	Leu	Glu	Leu	Gly	Lys	Glu	Phe	Ile	Leu	Ala	Pro	Asn	Asp	His	Phe	145	150	155	160
Asn	Asn	Leu	Pro	Val	Asn	Ile	Ser	Leu	Ser	Asp	Val	Gln	Val	Pro	Thr	165	170	175	
Asn	Met	Tyr	Asn	Lys	Asp	Pro	Ala	Ile	Val	Asn	Gly	Val	Tyr	Trp	Ser	180	185	190	
Glu	Ser	Leu	Asn	Lys	Val	Phe	Val	Asp	Asn	Phe	Asp	Arg	Asp	Pro	Ser	195	200	205	
Leu	Ile	Trp	Gln	Tyr	Phe	Gly	Ser	Ala	Lys	Gly	Phe	Phe	Arg	Gln	Tyr	210	215	220	
Pro	Gly	Ile	Lys	Trp	Glu	Pro	Asp	Glu	Asn	Gly	Val	Ile	Ala	Phe	Asp	225	230	235	240
Cys	Arg	Asn	Arg	Lys	Trp	Tyr	Ile	Gln	Ala	Ala	Thr	Ser	Pro	Lys	Asp	245	250	255	
Val	Val	Ile	Leu	Val	Asp	Val	Ser	Gly	Ser	Met	Lys	Gly	Leu	Arg	Leu	260	265	270	
Thr	Ile	Ala	Lys	Gln	Thr	Val	Ser	Ser	Ile	Leu	Asp	Thr	Leu	Gly	Asp	275	280	285	
Asp	Asp	Phe	Phe	Asn	Ile	Ile	Ala	Tyr	Asn	Glu	Glu	Leu	His	Tyr	Val	290	295	300	
Glu	Pro	Cys	Leu	Asn	Gly	Thr	Leu	Val	Gln	Ala	Asp	Arg	Thr	Asn	Lys	305	310	315	320
Glu	His	Phe	Arg	Glu	His	Leu	Asp	Lys	Leu	Phe	Ala	Lys	Gly	Ile	Gly	325	330	335	
Met	Leu	Asp	Ile	Ala	Leu	Asn	Glu	Ala	Phe	Asn	Ile	Leu	Ser	Asp	Phe	340	345	350	
Asn	His	Thr	Gly	Gln	Gly	Ser	Ile	Cys	Ser	Gln	Ala	Ile	Met	Leu	Ile	355	360	365	

Thr	Asp	Gly	Ala	Val	Asp	Thr	Tyr	Asp	Thr	Ile	Phe	Ala	Lys	Tyr	Asn	370	375	380	
Trp	Pro	Asp	Arg	Lys	Val	Arg	Ile	Phe	Thr	Tyr	Leu	Ile	Gly	Arg	Glu	385	390	395	400
Ala	Ala	Phe	Ala	Asp	Asn	Leu	Lys	Trp	Met	Ala	Cys	Ala	Asn	Lys	Gly	405	410	415	
Phe	Phe	Thr	Gln	Ile	Ser	Thr	Leu	Ala	Asp	Val	Gln	Glu	Asn	Val	Met	420	425	430	
Glu	Tyr	Leu	His	Val	Leu	Ser	Arg	Pro	Lys	Val	Ile	Asp	Gln	Glu	His	435	440	445	
Asp	Val	Val	Trp	Thr	Glu	Ala	Tyr	Ile	Asp	Ser	Thr	Leu	Thr	Asp	Asp	450	455	460	
Gln	Gly	Pro	Val	Leu	Met	Thr	Thr	Val	Ala	Met	Pro	Val	Phe	Ser	Lys	465	470	475	480
Gln	Asn	Glu	Thr	Arg	Ser	Lys	Gly	Ile	Leu	Leu	Gly	Val	Val	Gly	Thr	485	490	495	
Asp	Val	Pro	Val	Lys	Glu	Leu	Leu	Lys	Thr	Ile	Pro	Lys	Tyr	Lys	Leu	500	505	510	
Gly	Ile	His	Gly	Tyr	Ala	Phe	Ala	Ile	Thr	Asn	Asn	Gly	Tyr	Ile	Leu	515	520	525	
Thr	His	Pro	Glu	Leu	Arg	Leu	Leu	Tyr	Glu	Glu	Gly	Lys	Lys	Arg	Arg	530	535	540	
Lys	Pro	Asn	Tyr	Ser	Ser	Val	Asp	Leu	Ser	Glu	Val	Glu	Trp	Glu	Asp	545	550	555	560
Arg	Asp	Asp	Val	Leu	Arg	Asn	Ala	Met	Val	Asn	Arg	Lys	Thr	Gly	Lys	565	570	575	
Phe	Ser	Met	Glu	Val	Lys	Lys	Thr	Val	Asp	Lys	Gly	Lys	Arg	Val	Leu	580	585	590	
Val	Met	Thr	Asn	Asp	Tyr	Tyr	Tyr	Thr	Asp	Ile	Lys	Gly	Thr	Pro	Phe	595	600	605	
Ser	Leu	Gly	Val	Ala	Leu	Ser	Arg	Gly	His	Gly	Lys	Tyr	Phe	Phe	Arg	610	615	620	

Gly	Asn	Val	Thr	Ile	Glu	Glu	Gly	Leu	His	Asp	Leu	Glu	His	Pro	Asp	
625					630				635					640		
Val	Ser	Leu	Ala	Asp	Glu	Trp	Ser	Tyr	Cys	Asn	Thr	Asp	Leu	His	Pro	
			645					650						655		
Glu	His	Arg	His	Leu	Ser	Gln	Leu	Glu	Ala	Ile	Lys	Leu	Tyr	Leu	Lys	
		660					665						670			
Gly	Lys	Glu	Pro	Leu	Leu	Gln	Cys	Asp	Lys	Glu	Leu	Ile	Gln	Glu	Val	
	675						680					685				
Leu	Phe	Asp	Ala	Val	Val	Ser	Ala	Pro	Ile	Glu	Ala	Tyr	Trp	Thr	Ser	
	690					695						700				
Leu	Ala	Leu	Asn	Lys	Ser	Glu	Asn	Ser	Asp	Lys	Gly	Val	Glu	Val	Ala	
705				710					715						720	
Phe	Leu	Gly	Thr	Arg	Thr	Gly	Leu	Ser	Arg	Ile	Asn	Leu	Phe	Val	Gly	
			725						730					735		
Ala	Glu	Gln	Leu	Thr	Asn	Gln	Asp	Phe	Leu	Lys	Ala	Gly	Asp	Lys	Glu	
		740					745						750			
Asn	Ile	Phe	Asn	Ala	Asp	His	Phe	Pro	Leu	Trp	Tyr	Arg	Arg	Ala	Ala	
	755						760					765				
Glu	Gln	Ile	Pro	Gly	Ser	Phe	Val	Tyr	Ser	Ile	Pro	Phe	Ser	Thr	Gly	
	770					775					780					
Pro	Val	Asn	Lys	Ser	Asn	Val	Val	Thr	Ala	Ser	Thr	Ser	Ile	Gln	Leu	
785					790					795					800	
Leu	Asp	Glu	Arg	Lys	Ser	Pro	Val	Val	Ala	Ala	Val	Gly	Ile	Gln	Met	
			805						810					815		
Lys	Leu	Glu	Phe	Phe	Gln	Arg	Lys	Phe	Trp	Thr	Ala	Ser	Arg	Gln	Cys	
			820					825					830			
Ala	Ser	Leu	Asp	Gly	Lys	Cys	Ser	Ile	Ser	Cys	Asp	Asp	Glu	Thr	Val	
		835					840					845				
Asn	Cys	Tyr	Leu	Ile	Asp	Asn	Asn	Gly	Phe	Ile	Leu	Val	Ser	Glu	Asp	
	850					855					860					
Tyr	Thr	Gln	Thr	Gly	Asp	Phe	Phe	Gly	Glu	Ile	Glu	Gly	Ala	Val	Met	
865					870					875					880	

Asn Lys Leu Leu Thr Met Gly Ser Phe Lys Arg Ile Thr Leu Tyr Asp
885 890 895

Tyr Gln Ala Met Cys Arg Ala Asn Lys Glu Ser Ser Asp Gly Ala His
900 905 910

Gly Leu Leu Asp Pro Tyr Asn Ala Phe Leu Ser Ala Val Lys Trp Ile
915 920 925

Met Thr Glu Leu Val Leu Phe Leu Val Glu Phe Asn Leu Cys Ser Trp
930 935 940

Trp His Ser Asp Met Thr Ala Lys Ala Gln Lys Leu Lys Gln Thr Leu
945 950 955 960

Glu Pro Cys Asp Thr Glu Tyr Pro Ala Phe Val Ser Glu Arg Thr Ile
965 970 975

Lys Glu Thr Thr Gly Asn Ile Ala Cys Glu Asp Cys Ser Lys Ser Phe
980 985 990

Val Ile Gln Gln Ile Pro Ser Ser Asn Leu Phe Met Val Val Val Asp
995 1000 1005

Ser Ser Cys Leu Cys Glu Ser Val Ala Pro Ile
1010 1015

<210> 11

<211> 1038

<212> PRT

<213> Homo sapiens

<400> 11

Met Ala Gly Pro Gly Ser Pro Arg Arg Ala Ser Arg Gly Ala Ser Ala
1 5 10 15

Leu Leu Ala Ala Ala Leu Leu Tyr Ala Ala Leu Gly Asp Val Val Arg
20 25 30

Ser Glu Gln Gln Ile Pro Leu Ser Val Val Lys Leu Trp Ala Ser Ala
35 40 45

Phe Gly Gly Glu Ile Lys Ser Ile Ala Ala Lys Tyr Ser Gly Ser Gln
50 55 60

Leu Leu Gln Lys Lys Tyr Lys Glu Tyr Glu Lys Asp Val Ala Ile Glu

65	70	75	80
Glu Ile Asp Gly Leu Gln Leu Val Lys Lys Leu Ala Lys Asn Met Glu	85	90	95
Glu Met Phe His Lys Lys Ser Glu Ala Val Arg Arg Leu Val Glu Ala	100	105	110
Ala Glu Glu Ala His Leu Lys His Glu Phe Asp Ala Asp Leu Gln Tyr	115	120	125
Glu Tyr Phe Asn Ala Val Leu Ile Asn Glu Arg Asp Lys Asp Gly Asn	130	135	140
Phe Leu Glu Leu Gly Lys Glu Phe Ile Leu Ala Pro Asn Asp His Phe	145	150	155
Asn Asn Leu Pro Val Asn Ile Ser Leu Ser Asp Val Gln Val Pro Thr	165	170	175
Asn Met Tyr Asn Lys Asp Pro Ala Ile Val Asn Gly Val Tyr Trp Ser	180	185	190
Glu Ser Leu Asn Lys Val Phe Val Asp Asn Phe Asp Arg Asp Pro Ser	195	200	205
Leu Ile Trp Gln Tyr Phe Gly Ser Ala Lys Gly Phe Phe Arg Gln Tyr	210	215	220
Pro Gly Ile Lys Trp Glu Pro Asp Glu Asn Gly Val Ile Ala Phe Asp	225	230	235
Cys Arg Asn Arg Lys Trp Tyr Ile Gln Ala Ala Thr Ser Pro Lys Asp	245	250	255
Val Val Ile Leu Val Asp Val Ser Gly Ser Met Lys Gly Leu Arg Leu	260	265	270
Thr Ile Ala Lys Gln Thr Val Ser Ser Ile Leu Asp Thr Leu Gly Asp	275	280	285
Asp Asp Phe Phe Asn Ile Ile Ala Tyr Asn Glu Glu Leu His Tyr Val	290	295	300
Glu Pro Cys Leu Asn Gly Thr Leu Val Gln Ala Asp Arg Thr Asn Lys	305	310	315
Glu His Phe Arg Glu His Leu Asp Lys Leu Phe Ala Lys Gly Ile Gly			

325										330										335									
Met	Leu	Asp	Ile	Ala	Leu	Asn	Glu	Ala	Phe	Asn	Ile	Leu	Ser	Asp	Phe														
340					345					350																			
Asn	His	Thr	Gly	Gln	Gly	Ser	Ile	Cys	Ser	Gln	Ala	Ile	Met	Leu	Ile														
355					360					365																			
Thr	Asp	Gly	Ala	Val	Asp	Thr	Tyr	Asp	Thr	Ile	Phe	Ala	Lys	Tyr	Asn														
370					375					380																			
Trp	Pro	Asp	Arg	Lys	Val	Arg	Ile	Phe	Thr	Tyr	Leu	Ile	Gly	Arg	Glu														
385					390					395					400														
Ala	Ala	Phe	Ala	Asp	Asn	Leu	Lys	Trp	Met	Ala	Cys	Ala	Asn	Lys	Gly														
405					410					415																			
Phe	Phe	Thr	Gln	Ile	Ser	Thr	Leu	Ala	Asp	Val	Gln	Glu	Asn	Val	Met														
420					425					430																			
Glu	Tyr	Leu	His	Val	Leu	Ser	Arg	Pro	Lys	Val	Ile	Asp	Gln	Glu	His														
435					440					445																			
Asp	Val	Val	Trp	Thr	Glu	Ala	Tyr	Ile	Asp	Ser	Thr	Leu	Thr	Asp	Asp														
450					455					460																			
Gln	Gly	Pro	Val	Leu	Met	Thr	Thr	Val	Ala	Met	Pro	Val	Phe	Ser	Lys														
465					470					475					480														
Gln	Asn	Glu	Thr	Arg	Ser	Lys	Gly	Ile	Leu	Leu	Gly	Val	Val	Gly	Thr														
485					490					495																			
Asp	Val	Pro	Val	Lys	Glu	Leu	Leu	Lys	Thr	Ile	Pro	Lys	Tyr	Lys	Leu														
500					505					510																			
Gly	Ile	His	Gly	Tyr	Ala	Phe	Ala	Ile	Thr	Asn	Asn	Gly	Tyr	Ile	Leu														
515					520					525																			
Thr	His	Pro	Glu	Leu	Arg	Leu	Leu	Tyr	Glu	Glu	Gly	Lys	Lys	Arg	Arg														
530					535					540																			
Lys	Pro	Asn	Tyr	Ser	Ser	Val	Asp	Leu	Ser	Glu	Val	Glu	Trp	Glu	Asp														
545					550					555					560														
Arg	Asp	Asp	Val	Leu	Arg	Asn	Ala	Met	Val	Asn	Arg	Lys	Thr	Gly	Lys														
565					570					575																			
Phe	Ser	Met	Glu	Val	Lys	Lys	Thr	Val	Asp	Lys	Gly	Lys	Arg	Val	Leu														

580					585					590						
Val	Met	Thr	Asn	Asp	Tyr	Tyr	Tyr	Thr	Asp	Ile	Lys	Gly	Thr	Pro	Phe	
595					600					605						
Ser	Leu	Gly	Val	Ala	Leu	Ser	Arg	Gly	His	Gly	Lys	Tyr	Phe	Phe	Arg	
610					615					620						
Gly	Asn	Val	Thr	Ile	Glu	Glu	Gly	Leu	His	Asp	Leu	Glu	His	Pro	Asp	
625					630					635					640	
Val	Ser	Leu	Ala	Asp	Glu	Trp	Ser	Tyr	Cys	Asn	Thr	Asp	Leu	His	Pro	
645					650					655						
Glu	His	Arg	His	Leu	Ser	Gln	Leu	Glu	Ala	Ile	Lys	Leu	Tyr	Leu	Lys	
660					665					670						
Gly	Lys	Glu	Pro	Leu	Leu	Gln	Cys	Asp	Lys	Glu	Leu	Ile	Gln	Glu	Val	
675					680					685						
Leu	Phe	Asp	Ala	Val	Val	Ser	Ala	Pro	Ile	Glu	Ala	Tyr	Trp	Thr	Ser	
690					695					700						
Leu	Ala	Leu	Asn	Lys	Ser	Glu	Asn	Ser	Asp	Lys	Gly	Val	Glu	Val	Ala	
705					710					715					720	
Phe	Leu	Gly	Thr	Arg	Thr	Gly	Leu	Ser	Arg	Ile	Asn	Leu	Phe	Val	Gly	
725					730					735						
Ala	Glu	Gln	Leu	Thr	Asn	Gln	Asp	Phe	Leu	Lys	Ala	Gly	Asp	Lys	Glu	
740					745					750						
Asn	Ile	Phe	Asn	Ala	Asp	His	Phe	Pro	Leu	Trp	Tyr	Arg	Arg	Ala	Ala	
755					760					765						
Glu	Gln	Ile	Pro	Gly	Ser	Phe	Val	Tyr	Ser	Ile	Pro	Phe	Ser	Thr	Gly	
770					775					780						
Pro	Val	Asn	Lys	Ser	Asn	Val	Val	Thr	Ala	Ser	Thr	Ser	Ile	Gln	Leu	
785					790					795					800	
Leu	Asp	Glu	Arg	Lys	Ser	Pro	Val	Val	Ala	Ala	Val	Gly	Ile	Gln	Met	
805					810					815						
Lys	Leu	Glu	Phe	Phe	Gln	Arg	Lys	Phe	Trp	Thr	Ala	Ser	Arg	Gln	Cys	
820					825					830						
Ala	Ser	Leu	Asp	Gly	Lys	Cys	Ser	Ile	Ser	Cys	Asp	Asp	Glu	Thr	Val	

835					840					845					
Asn	Cys	Tyr	Leu	Ile	Asp	Asn	Asn	Gly	Phe	Ile	Leu	Val	Ser	Glu	Asp
850					855					860					
Tyr	Thr	Gln	Thr	Gly	Asp	Phe	Phe	Gly	Glu	Ile	Glu	Gly	Ala	Val	Met
865					870					875					880
Asn	Lys	Leu	Leu	Thr	Met	Gly	Ser	Phe	Lys	Arg	Ile	Thr	Leu	Tyr	Asp
885					890					895					
Tyr	Gln	Ala	Met	Cys	Arg	Ala	Asn	Lys	Glu	Ser	Ser	Asp	Gly	Ala	His
900					905					910					
Gly	Leu	Leu	Asp	Pro	Tyr	Asn	Ala	Phe	Leu	Ser	Ala	Val	Lys	Trp	Ile
915					920					925					
Met	Thr	Glu	Leu	Val	Leu	Phe	Leu	Val	Glu	Phe	Asn	Leu	Cys	Ser	Trp
930					935					940					
Trp	His	Ser	Asp	Met	Thr	Ala	Lys	Ala	Gln	Lys	Leu	Lys	Gln	Thr	Leu
945					950					955					960
Glu	Pro	Cys	Asp	Thr	Glu	Tyr	Pro	Ala	Phe	Val	Ser	Glu	Arg	Thr	Ile
965					970					975					
Lys	Glu	Thr	Thr	Gly	Asn	Ile	Ala	Cys	Glu	Asp	Cys	Ser	Lys	Ser	Phe
980					985					990					
Val	Ile	Gln	Gln	Ile	Pro	Ser	Ser	Asn	Leu	Phe	Met	Val	Val	Val	Asp
995					1000					1005					
Ser	Ser	Cys	Leu	Cys	Glu	Ser	Val	Ala	Pro	Ile	Thr	Met	Ala	Pro	Ile
1010					1015					1020					
Glu	Ile	Arg	Tyr	Asn	Glu	Ser	Leu	Lys	Cys	Glu	Arg	Leu	Lys		
1025					1030					1035					

<210> 12

<211> 1065

<212> PRT

<213> Homo sapiens

<400> 12

Met Ala Gly Pro Gly Ser Pro Arg Arg Ala Ser Arg Gly Ala Ser Ala

1

5

10

15

Leu Leu Ala Ala Ala Leu Leu Tyr Ala Ala Leu Gly Asp Val Val Arg
 20 25 30

Ser Glu Gln Gln Ile Pro Leu Ser Val Val Lys Leu Trp Ala Ser Ala
 35 40 45

Phe Gly Gly Glu Ile Lys Ser Ile Ala Ala Lys Tyr Ser Gly Ser Gln
 50 55 60

Leu Leu Gln Lys Lys Tyr Lys Glu Tyr Glu Lys Asp Val Ala Ile Glu
 65 70 75 80

Glu Ile Asp Gly Leu Gln Leu Val Lys Lys Leu Ala Lys Asn Met Glu
 85 90 95

Glu Met Phe His Lys Lys Ser Glu Ala Val Arg Arg Leu Val Glu Ala
 100 105 110

Ala Glu Glu Ala His Leu Lys His Glu Phe Asp Ala Asp Leu Gln Tyr
 115 120 125

Glu Tyr Phe Asn Ala Val Leu Ile Asn Glu Arg Asp Lys Asp Gly Asn
 130 135 140

Phe Leu Glu Leu Gly Lys Glu Phe Ile Leu Ala Pro Asn Asp His Phe
 145 150 155 160

Asn Asn Leu Pro Val Asn Ile Ser Leu Ser Asp Val Gln Val Pro Thr
 165 170 175

Asn Met Tyr Asn Lys Asp Pro Ala Ile Val Asn Gly Val Tyr Trp Ser
 180 185 190

Glu Ser Leu Asn Lys Val Phe Val Asp Asn Phe Asp Arg Asp Pro Ser
 195 200 205

Leu Ile Trp Gln Tyr Phe Gly Ser Ala Lys Gly Phe Phe Arg Gln Tyr
 210 215 220

Pro Gly Ile Lys Trp Glu Pro Asp Glu Asn Gly Val Ile Ala Phe Asp
 225 230 235 240

Cys Arg Asn Arg Lys Trp Tyr Ile Gln Ala Ala Thr Ser Pro Lys Asp
 245 250 255

Val Val Ile Leu Val Asp Val Ser Gly Ser Met Lys Gly Leu Arg Leu
 260 265 270

Thr	Ile	Ala	Lys	Gln	Thr	Val	Ser	Ser	Ile	Leu	Asp	Thr	Leu	Gly	Asp	275	280	285
Asp	Asp	Phe	Phe	Asn	Ile	Ile	Ala	Tyr	Asn	Glu	Glu	Leu	His	Tyr	Val	290	295	300
Glu	Pro	Cys	Leu	Asn	Gly	Thr	Leu	Val	Gln	Ala	Asp	Arg	Thr	Asn	Lys	305	310	315 320
Glu	His	Phe	Arg	Glu	His	Leu	Asp	Lys	Leu	Phe	Ala	Lys	Gly	Ile	Gly	325	330	335
Met	Leu	Asp	Ile	Ala	Leu	Asn	Glu	Ala	Phe	Asn	Ile	Leu	Ser	Asp	Phe	340	345	350
Asn	His	Thr	Gly	Gln	Gly	Ser	Ile	Cys	Ser	Gln	Ala	Ile	Met	Leu	Ile	355	360	365
Thr	Asp	Gly	Ala	Val	Asp	Thr	Tyr	Asp	Thr	Ile	Phe	Ala	Lys	Tyr	Asn	370	375	380
Trp	Pro	Asp	Arg	Lys	Val	Arg	Ile	Phe	Thr	Tyr	Leu	Ile	Gly	Arg	Glu	385	390	395 400
Ala	Ala	Phe	Ala	Asp	Asn	Leu	Lys	Trp	Met	Ala	Cys	Ala	Asn	Lys	Gly	405	410	415
Phe	Phe	Thr	Gln	Ile	Ser	Thr	Leu	Ala	Asp	Val	Gln	Glu	Asn	Val	Met	420	425	430
Glu	Tyr	Leu	His	Val	Leu	Ser	Arg	Pro	Lys	Val	Ile	Asp	Gln	Glu	His	435	440	445
Asp	Val	Val	Trp	Thr	Glu	Ala	Tyr	Ile	Asp	Ser	Thr	Leu	Thr	Asp	Asp	450	455	460
Gln	Gly	Pro	Val	Leu	Met	Thr	Thr	Val	Ala	Met	Pro	Val	Phe	Ser	Lys	465	470	475 480
Gln	Asn	Glu	Thr	Arg	Ser	Lys	Gly	Ile	Leu	Leu	Gly	Val	Val	Gly	Thr	485	490	495
Asp	Val	Pro	Val	Lys	Glu	Leu	Leu	Lys	Thr	Ile	Pro	Lys	Tyr	Lys	Leu	500	505	510
Gly	Ile	His	Gly	Tyr	Ala	Phe	Ala	Ile	Thr	Asn	Asn	Gly	Tyr	Ile	Leu	515	520	525

Thr	His	Pro	Glu	Leu	Arg	Leu	Leu	Tyr	Glu	Glu	Gly	Lys	Lys	Arg	Arg	530	535	540	
Lys	Pro	Asn	Tyr	Ser	Ser	Val	Asp	Leu	Ser	Glu	Val	Glu	Trp	Glu	Asp	545	550	555	560
Arg	Asp	Asp	Val	Leu	Arg	Asn	Ala	Met	Val	Asn	Arg	Lys	Thr	Gly	Lys	565	570	575	
Phe	Ser	Met	Glu	Val	Lys	Lys	Thr	Val	Asp	Lys	Gly	Lys	Arg	Val	Leu	580	585	590	
Val	Met	Thr	Asn	Asp	Tyr	Tyr	Tyr	Thr	Asp	Ile	Lys	Gly	Thr	Pro	Phe	595	600	605	
Ser	Leu	Gly	Val	Ala	Leu	Ser	Arg	Gly	His	Gly	Lys	Tyr	Phe	Phe	Arg	610	615	620	
Gly	Asn	Val	Thr	Ile	Glu	Glu	Gly	Leu	His	Asp	Leu	Glu	His	Pro	Asp	625	630	635	640
Val	Ser	Leu	Ala	Asp	Glu	Trp	Ser	Tyr	Cys	Asn	Thr	Asp	Leu	His	Pro	645	650	655	
Glu	His	Arg	His	Leu	Ser	Gln	Leu	Glu	Ala	Ile	Lys	Leu	Tyr	Leu	Lys	660	665	670	
Gly	Lys	Glu	Pro	Leu	Leu	Gln	Cys	Asp	Lys	Glu	Leu	Ile	Gln	Glu	Val	675	680	685	
Leu	Phe	Asp	Ala	Val	Val	Ser	Ala	Pro	Ile	Glu	Ala	Tyr	Trp	Thr	Ser	690	695	700	
Leu	Ala	Leu	Asn	Lys	Ser	Glu	Asn	Ser	Asp	Lys	Gly	Val	Glu	Val	Ala	705	710	715	720
Phe	Leu	Gly	Thr	Arg	Thr	Gly	Leu	Ser	Arg	Ile	Asn	Leu	Phe	Val	Gly	725	730	735	
Ala	Glu	Gln	Leu	Thr	Asn	Gln	Asp	Phe	Leu	Lys	Ala	Gly	Asp	Lys	Glu	740	745	750	
Asn	Ile	Phe	Asn	Ala	Asp	His	Phe	Pro	Leu	Trp	Tyr	Arg	Arg	Ala	Ala	755	760	765	
Glu	Gln	Ile	Pro	Gly	Ser	Phe	Val	Tyr	Ser	Ile	Pro	Phe	Ser	Thr	Gly	770	775	780	

Pro Val Asn Lys Ser Asn Val Val Thr Ala Ser Thr Ser Ile Gln Leu			
785	790	795	800
Leu Asp Glu Arg Lys Ser Pro Val Val Ala Ala Val Gly Ile Gln Met			
	805	810	815
Lys Leu Glu Phe Phe Gln Arg Lys Phe Trp Thr Ala Ser Arg Gln Cys			
	820	825	830
Ala Ser Leu Asp Gly Lys Cys Ser Ile Ser Cys Asp Asp Glu Thr Val			
	835	840	845
Asn Cys Tyr Leu Ile Asp Asn Asn Gly Phe Ile Leu Val Ser Glu Asp			
	850	855	860
Tyr Thr Gln Thr Gly Asp Phe Phe Gly Glu Ile Glu Gly Ala Val Met			
865	870	875	880
Asn Lys Leu Leu Thr Met Gly Ser Phe Lys Arg Ile Thr Leu Tyr Asp			
	885	890	895
Tyr Gln Ala Met Cys Arg Ala Asn Lys Glu Ser Ser Asp Gly Ala His			
	900	905	910
Gly Leu Leu Asp Pro Tyr Asn Ala Phe Leu Ser Ala Val Lys Trp Ile			
	915	920	925
Met Thr Glu Leu Val Leu Phe Leu Val Glu Phe Asn Leu Cys Ser Trp			
	930	935	940
Trp His Ser Asp Met Thr Ala Lys Ala Gln Lys Leu Lys Gln Thr Leu			
945	950	955	960
Glu Pro Cys Asp Thr Glu Tyr Pro Ala Phe Val Ser Glu Arg Thr Ile			
	965	970	975
Lys Glu Thr Thr Gly Asn Ile Ala Cys Glu Asp Cys Ser Lys Ser Phe			
	980	985	990
Val Ile Gln Gln Ile Pro Ser Ser Asn Leu Phe Met Val Val Val Asp			
	995	1000	1005
Ser Ser Cys Leu Cys Glu Ser Val Ala Pro Ile Thr Met Ala Pro Ile			
1010	1015	1020	
Glu Ile Arg Tyr Asn Glu Ser Leu Lys Cys Glu Arg Leu Lys Ala Gln			
1025	1030	1035	1040

Lys Ile Arg Arg Arg Pro Glu Ser Cys His Gly Phe His Pro Glu Glu
1045 1050 1055

Asn Ala Arg Glu Cys Gly Gly Ala Pro
1060 1065

<210> 13
<211> 912
<212> DNA
<213> Homo sapiens

<400> 13
agtggcctcc tgagaagcag cttgttcgtg ggctccgaga aggtctccga caggaagttc 60
ctgacacctg aggacgaggc cagcgtgttc accctggacc gcttcccgt gtggtaccgc 120
caggcctcag agcatcctgc tggcagcttc gtcttcaacc tccgctgggc agaaggacca 180
gaaagtgcgg gtgaacccat ggtggtgacg gcaagcacag ctgtggcggg gaccgtggac 240
aagaggacag ccattgctgc agccgcgggc gtccaaatga agctggaatt cctccagcgc 300
aaattctggg cggcaacgcg gcagtgcagc actgtggatg ggccgtgcac acagagctgc 360
gaggacagtg atctggactg cttcgtcatc gacaacaacg ggttcattct gatctccaag 420
aggtcccag agacgggaag atttctgggg gaggtggatg gtgctgtcct gacctcagctg 480
ctcagcatgg ggggtgttcag ccaagtgact atgtatgact atcaggccat gtgcaaacc 540
tcgagtcacc accacagtgc agcccagccc ctggtcagcc caatttctgc cttcttgacg 600
gcgaccaggt ggctgctgca ggagctggtg ctgttcctgc tggagtggag tgtctggggc 660
tcctgtgtac acagaggggc cgaggccaaa agtgtcttcc atcactccca caaacacaag 720
aagcaggacc cgctgcagcc ctgcgacacg gtagtccccg tggtcgtgta ccagccggcc 780
atccgggagg ccaacgggat cgtggagtgc gggccctgcc agaaggtatt tgtggtgcag 840
cagattccca acagtaacct cctcctcctg gtgacagacc ccacctgtga ctgcagcatc 900
ttcccaccag tg 912

<210> 14
<211> 969
<212> DNA
<213> Homo sapiens

<400> 14
agtggcctcc tgagaagcag cttgttcgtg ggctccgaga aggtctccga caggaagttc 60
ctgacacctg aggacgaggc cagcgtgttc accctggacc gcttcccgt gtggtaccgc 120
caggcctcag agcatcctgc tggcagcttc gtcttcaacc tccgctgggc agaaggacca 180
gaaagtgcgg gtgaacccat ggtggtgacg gcaagcacag ctgtggcggg gaccgtggac 240
aagaggacag ccattgctgc agccgcgggc gtccaaatga agctggaatt cctccagcgc 300
aaattctggg cggcaacgcg gcagtgcagc actgtggatg ggccgtgcac acagagctgc 360
gaggacagtg atctggactg cttcgtcatc gacaacaacg ggttcattct gatctccaag 420
aggtcccag agacgggaag atttctgggg gaggtggatg gtgctgtcct gacctcagctg 480
ctcagcatgg ggggtgttcag ccaagtgact atgtatgact atcaggccat gtgcaaacc 540
tcgagtcacc accacagtgc agcccagccc ctggtcagcc caatttctgc cttcttgacg 600
gcgaccaggt ggctgctgca ggagctggtg ctgttcctgc tggagtggag tgtctggggc 660

```

tcctggtacg acagaggggc cgaggccaaa agtgtcttcc atcactccca caaacacaag 720
aagcaggacc cgctgcagcc ctgcgacacg gaggaccccg tgttcgtgta ccagccggcc 780
atccgggagg ccaacgggat cgtggagtgc gggccctgcc agaaggattt tgtggtgcag 840
cagattccca acagtaacct cctcctcctg gtgacagacc ccacctgtga ctgcagcatc 900
ttcccaccag tgctgcagga ggcgacagaa gtcaaata atgcctctgt caaatgtgac 960
cggatgcgc 969

```

<210> 15

<211> 1050

<212> DNA

<213> Homo sapiens

<400> 15

```

agtggcctcc tgagaagcag cttgttcgtg ggctccgaga aggtctccga caggaagttc 60
ctgacacctg aggacgaggc cagcgtgttc accctggacc gttcccgct gtggtaccgc 120
caggcctcag agcatcctgc tggcagcttc gtcttcaacc tccgctgggc agaaggacca 180
gaaagtgcgg gtgaacccat ggtggtgacg gcaagcacag ctgtggcggg gaccgtggac 240
aagaggacag ccattgctgc agccgcgggc gtccaaatga agctggaatt cctccagcgc 300
aaattctggg cggcaacgcg gcagtgcagc actgtggatg ggccgtgcac acagagctgc 360
gaggacagtg atctggactg cttcgtcatc gacaacaacg gggtcattct gatctccaag 420
aggtcccgag agacgggaag atttctgggg gaggtggatg gtgctgtcct gaccagctg 480
ctcagcatgg ggggtgttcag ccaagtgact atgtatgact atcaggccat gtgcaaacc 540
tcgagtcacc accacagtgc agcccagccc ctggctcagcc caatttctgc cttcttgacg 600
gcgaccaggt ggctgctgca ggagctggtg ctgttcctgc tggagtggag tgtctggggc 660
tcctggtacg acagaggggc cgaggccaaa agtgtcttcc atcactccca caaacacaag 720
aagcaggacc cgctgcagcc ctgcgacacg gaggaccccg tgttcgtgta ccagccggcc 780
atccgggagg ccaacgggat cgtggagtgc gggccctgcc agaaggattt tgtggtgcag 840
cagattccca acagtaacct cctcctcctg gtgacagacc ccacctgtga ctgcagcatc 900
ttcccaccag tgctgcagga ggcgacagaa gtcaaata atgcctctgt caaatgtgac 960
cggatgcgct ccagaagct ccgccggcga ccagactcct gccacgcctt ccatccagag 1020
gagaatgccc aggactgcgg cggcgcctcg 1050

```

<210> 16

<211> 304

<212> PRT

<213> Homo sapiens

<400> 16

```

Ser Gly Leu Leu Arg Ser Ser Leu Phe Val Gly Ser Glu Lys Val Ser
  1               5               10              15

Asp Arg Lys Phe Leu Thr Pro Glu Asp Glu Ala Ser Val Phe Thr Leu
      20               25              30

Asp Arg Phe Pro Leu Trp Tyr Arg Gln Ala Ser Glu His Pro Ala Gly
      35               40              45

```


Ser	Phe	Val	Phe	Asn	Leu	Arg	Trp	Ala	Glu	Gly	Pro	Glu	Ser	Ala	Gly			
	50					55					60							
Glu	Pro	Met	Val	Val	Thr	Ala	Ser	Thr	Ala	Val	Ala	Val	Thr	Val	Asp			
65					70					75					80			
Lys	Arg	Thr	Ala	Ile	Ala	Ala	Ala	Ala	Gly	Val	Gln	Met	Lys	Leu	Glu			
				85					90					95				
Phe	Leu	Gln	Arg	Lys	Phe	Trp	Ala	Ala	Thr	Arg	Gln	Cys	Ser	Thr	Val			
			100					105					110					
Asp	Gly	Pro	Cys	Thr	Gln	Ser	Cys	Glu	Asp	Ser	Asp	Leu	Asp	Cys	Phe			
		115					120					125						
Val	Ile	Asp	Asn	Asn	Gly	Phe	Ile	Leu	Ile	Ser	Lys	Arg	Ser	Arg	Glu			
130						135					140							
Thr	Gly	Arg	Phe	Leu	Gly	Glu	Val	Asp	Gly	Ala	Val	Leu	Thr	Gln	Leu			
145					150					155					160			
Leu	Ser	Met	Gly	Val	Phe	Ser	Gln	Val	Thr	Met	Tyr	Asp	Tyr	Gln	Ala			
			165						170					175				
Met	Cys	Lys	Pro	Ser	Ser	His	His	His	Ser	Ala	Ala	Gln	Pro	Leu	Val			
			180					185					190					
Ser	Pro	Ile	Ser	Ala	Phe	Leu	Thr	Ala	Thr	Arg	Trp	Leu	Leu	Gln	Glu			
		195					200					205						
Leu	Val	Leu	Phe	Leu	Leu	Glu	Trp	Ser	Val	Trp	Gly	Ser	Trp	Tyr	Asp			
210					215						220							
Arg	Gly	Ala	Glu	Ala	Lys	Ser	Val	Phe	His	His	Ser	His	Lys	His	Lys			
225					230					235					240			
Lys	Gln	Asp	Pro	Leu	Gln	Pro	Cys	Asp	Thr	Glu	Tyr	Pro	Val	Phe	Val			
			245						250					255				
Tyr	Gln	Pro	Ala	Ile	Arg	Glu	Ala	Asn	Gly	Ile	Val	Glu	Cys	Gly	Pro			
		260						265					270					
Cys	Gln	Lys	Val	Phe	Val	Val	Gln	Gln	Ile	Pro	Asn	Ser	Asn	Leu	Leu			
		275					280					285						
Leu	Leu	Val	Thr	Asp	Pro	Thr	Cys	Asp	Cys	Ser	Ile	Phe	Pro	Pro	Val			
		290				295					300							

<210> 17
 <211> 323
 <212> PRT
 <213> Homo sapiens

<400> 17
 Ser Gly Leu Leu Arg Ser Ser Leu Phe Val Gly Ser Glu Lys Val Ser
 1 5 10 15
 Asp Arg Lys Phe Leu Thr Pro Glu Asp Glu Ala Ser Val Phe Thr Leu
 20 25 30
 Asp Arg Phe Pro Leu Trp Tyr Arg Gln Ala Ser Glu His Pro Ala Gly
 35 40 45
 Ser Phe Val Phe Asn Leu Arg Trp Ala Glu Gly Pro Glu Ser Ala Gly
 50 55 60
 Glu Pro Met Val Val Thr Ala Ser Thr Ala Val Ala Val Thr Val Asp
 65 70 75 80
 Lys Arg Thr Ala Ile Ala Ala Ala Ala Gly Val Gln Met Lys Leu Glu
 85 90 95
 Phe Leu Gln Arg Lys Phe Trp Ala Ala Thr Arg Gln Cys Ser Thr Val
 100 105 110
 Asp Gly Pro Cys Thr Gln Ser Cys Glu Asp Ser Asp Leu Asp Cys Phe
 115 120 125
 Val Ile Asp Asn Asn Gly Phe Ile Leu Ile Ser Lys Arg Ser Arg Glu
 130 135 140
 Thr Gly Arg Phe Leu Gly Glu Val Asp Gly Ala Val Leu Thr Gln Leu
 145 150 155 160
 Leu Ser Met Gly Val Phe Ser Gln Val Thr Met Tyr Asp Tyr Gln Ala
 165 170 175
 Met Cys Lys Pro Ser Ser His His His Ser Ala Ala Gln Pro Leu Val
 180 185 190
 Ser Pro Ile Ser Ala Phe Leu Thr Ala Thr Arg Trp Leu Leu Gln Glu

195	200	205
Leu Val Leu Phe Leu Leu Glu Trp Ser Val Trp Gly Ser Trp Tyr Asp		
210	215	220
Arg Gly Ala Glu Ala Lys Ser Val Phe His His Ser His Lys His Lys		
225	230	235 240
Lys Gln Asp Pro Leu Gln Pro Cys Asp Thr Glu Tyr Pro Val Phe Val		
245	250	255
Tyr Gln Pro Ala Ile Arg Glu Ala Asn Gly Ile Val Glu Cys Gly Pro		
260	265	270
Cys Gln Lys Val Phe Val Val Gln Gln Ile Pro Asn Ser Asn Leu Leu		
275	280	285
Leu Leu Val Thr Asp Pro Thr Cys Asp Cys Ser Ile Phe Pro Pro Val		
290	295	300
Leu Gln Glu Ala Thr Glu Val Lys Tyr Asn Ala Ser Val Lys Cys Asp		
305	310	315 320
Arg Met Arg		

<210> 18
 <211> 350
 <212> PRT
 <213> Homo sapiens

<400> 18
Ser Gly Leu Leu Arg Ser Ser Leu Phe Val Gly Ser Glu Lys Val Ser
1 5 10 15
Asp Arg Lys Phe Leu Thr Pro Glu Asp Glu Ala Ser Val Phe Thr Leu
20 25 30
Asp Arg Phe Pro Leu Trp Tyr Arg Gln Ala Ser Glu His Pro Ala Gly
35 40 45
Ser Phe Val Phe Asn Leu Arg Trp Ala Glu Gly Pro Glu Ser Ala Gly
50 55 60
Glu Pro Met Val Val Thr Ala Ser Thr Ala Val Ala Val Thr Val Asp
65 70 75 80

Lys	Arg	Thr	Ala	Ile	Ala	Ala	Ala	Ala	Gly	Val	Gln	Met	Lys	Leu	Glu	85	90	95
Phe	Leu	Gln	Arg	Lys	Phe	Trp	Ala	Ala	Thr	Arg	Gln	Cys	Ser	Thr	Val	100	105	110
Asp	Gly	Pro	Cys	Thr	Gln	Ser	Cys	Glu	Asp	Ser	Asp	Leu	Asp	Cys	Phe	115	120	125
Val	Ile	Asp	Asn	Asn	Gly	Phe	Ile	Leu	Ile	Ser	Lys	Arg	Ser	Arg	Glu	130	135	140
Thr	Gly	Arg	Phe	Leu	Gly	Glu	Val	Asp	Gly	Ala	Val	Leu	Thr	Gln	Leu	145	150	155
Leu	Ser	Met	Gly	Val	Phe	Ser	Gln	Val	Thr	Met	Tyr	Asp	Tyr	Gln	Ala	165	170	175
Met	Cys	Lys	Pro	Ser	Ser	His	His	His	Ser	Ala	Ala	Gln	Pro	Leu	Val	180	185	190
Ser	Pro	Ile	Ser	Ala	Phe	Leu	Thr	Ala	Thr	Arg	Trp	Leu	Leu	Gln	Glu	195	200	205
Leu	Val	Leu	Phe	Leu	Leu	Glu	Trp	Ser	Val	Trp	Gly	Ser	Trp	Tyr	Asp	210	215	220
Arg	Gly	Ala	Glu	Ala	Lys	Ser	Val	Phe	His	His	Ser	His	Lys	His	Lys	225	230	235
Lys	Gln	Asp	Pro	Leu	Gln	Pro	Cys	Asp	Thr	Glu	Tyr	Pro	Val	Phe	Val	245	250	255
Tyr	Gln	Pro	Ala	Ile	Arg	Glu	Ala	Asn	Gly	Ile	Val	Glu	Cys	Gly	Pro	260	265	270
Cys	Gln	Lys	Val	Phe	Val	Val	Gln	Gln	Ile	Pro	Asn	Ser	Asn	Leu	Leu	275	280	285
Leu	Leu	Val	Thr	Asp	Pro	Thr	Cys	Asp	Cys	Ser	Ile	Phe	Pro	Pro	Val	290	295	300
Leu	Gln	Glu	Ala	Thr	Glu	Val	Lys	Tyr	Asn	Ala	Ser	Val	Lys	Cys	Asp	305	310	315
Arg	Met	Arg	Ser	Gln	Lys	Leu	Arg	Arg	Arg	Pro	Asp	Ser	Cys	His	Ala	325	330	335

Phe His Pro Glu Glu Asn Ala Gln Asp Cys Gly Gly Ala Ser
 340 345 350

<210> 19

<211> 5482

<212> DNA

<213> Homo sapiens

<400> 19

```

cgggcagcgc agcccgacaga ggcgctgcgg cccgtgcagc cccggaggcc cctcgaggag 60
aaggcggcgg cggaggagag gccgagttac cgcccgccgc ccgcgcccc ccaaccccg 120
cgccgcggcc gccgcggcca ctgccccccc tccccgcggc gccgcatctt gaatggaaac 180
atggcgggtgc cggctcggac ctgcggcgcc tctcgccccg gccagcgcg gactgcgcgc 240
ccctggcccc gctcggggcc ccaccctggc cccggcaccg ggcgccccgac gtccggggcc 300
ccgcgccccg tgtggctgct gctgcgcgtt ctaccgctgc tcgccccccc cggcgccctt 360
gcctacagct tccccagca gcacacgatg cagcactggg cccggcgctt ggagcaggag 420
gtcgacggcg tgatgcggat ttttgaggc gtccagcagc tccgtgagat ttacaaggac 480
aaccggaacc tgttcgaggt acaggagaat gagcctcaga agttggtgga gaaggaggca 540
ggggacattg agagccttct ggacaggaag gtgcaggccc tgaagagact ggctgatgct 600
gcagagaact tccagaaagc acaccgctgg caggacaaca tcaaggagga agacatcgtg 660
tactatgacg ccaaggctga cgctgagctg gacgaccctg agagtgagga tgtggaaagg 720
gggtctaagg ccagcaccct aaggctggac ttcacgagg acccaaactt caagaacaag 780
gtcaactatt catagcggc tgtacagatc cctacggaca tctacaaagg ctccactgtc 840
atcctcaatg agctcaactg gacagaggcc ctggagaatg tgttcatgga aaaccgcaga 900
caagacccca cactgctgtg gcaggctctt ggcagcgcca caggagtcac tcgctactac 960
ccggccaccc cgtggcgagc cccaagaag atcgacctgt acgatgtccg aaggagaccc 1020
tggtatatcc agggggcctc gtcacccaaa gacatggtca tcatcgtgga tgtgagtggc 1080
agtgtgagcg gcctgacctt gaagctgatg aagacatctg tctgcgagat gctggacacg 1140
ctgtctgatg atgactatgt gaatgtggcc tcgttcaacg agaaggcaca gcctgtgtca 1200
tgcttcacac acctggtgca ggccaatgtg cgcaacaaga aggtgttcaa ggaagctgtg 1260
cagggcattg tggccaaggc caccacaggc tacaaggccg gctttgagta tgcctttgac 1320
cagctgcaga actccaacat cactcggggc aactgcaaca agatgatcat gatgttcacg 1380
gatggtggtg aggaccgct gcaggacgtc tttgagaagt acaattggcc aaaccggacg 1440
gtgcgcgtgt ttactttctc cgtggggcag cataactatg acgtcacacc gctgcagtgg 1500
atggcctgtg ccaacaaagg ctactatttt gagatccctt ccateggagc catccgcac 1560
aacacacagg aatatctaga tgtgttgggc aggcccatgg tgcggcagg caaggaggcc 1620
aagcagggtt agtggacca cgtgtatgag gatgcactgg gactgggggtt ggtggttaaca 1680
gggacccctc ctgttttcaa cctgacacag gatggccctg gggaaaagaa gaaccagctg 1740
atcctgggcg tgatgggcat tgacgtggct ctgaatgaca tcaagaggct gacccccaac 1800
tacacgcttg gagccaacgg ctatgtgttt gccattgacc tgaacggcta cgtgttgctg 1860
caccccaatc tcaagcccca gaccaccaac ttccgggagc ctgtgactct ggacttcctg 1920
gatgcggagc tagaggatga gaacaaggaa gagatccgtc ggagcatgat tgatggcaac 1980
aagggccaca agcagatcag aacgttggtc aagtccctgg atgagaggta catagatgag 2040
gtgacacgga actacacctg ggtgcctata aggagcacta actacagcct ggggctggtg 2100
ctccaccct acagcacctt ctacctcaa gccaatctca gtgaccagat cctgcaggct 2160
aagtattttg agttcctgct cccagcagc tttgagctg aaggacacgt tttcattgct 2220
cccagagagt actgcaagga cctgaatgcc tcagacaaca acaccgagtt cctgaaaaac 2280

```

tttattgagc	tcatggagaa	agtgactcca	gactccaagc	agtgcaacaa	cttccttctg	2340
cacaacctga	tcttgacac	gggcatcacg	cagcagctgg	tagagcgtgt	gtggagggac	2400
caggatctca	acacgtacag	cctactggcc	gtgttcgctg	ccacagacgg	tggcatcacc	2460
cgagtcttcc	ccaacaaggc	agctgaggac	tggacagaga	accctgagcc	cttcaatgcc	2520
agcttctacc	gccgcagcct	ggataaccac	ggttatgtct	tcaagcccc	acaccaggat	2580
gccctgttaa	ggccgctgga	gctggagaat	gacactgtgg	gcatcctcgt	cagcacagct	2640
gtggagctca	gcctaggcag	gcgcacactg	aggccagcag	tgggtggcgt	caagctggac	2700
ctagaggctt	gggctgagaa	gttcaagggtg	ctagccagca	accgtaccca	ccaagaccag	2760
cctcagaagt	gcggcccca	cagccactgt	gagatggact	gcgagggttaa	caatgaggac	2820
ttactctgtg	tcttcattga	tgatggagga	ttcctgggtg	tgtcaaacca	gaaccatcag	2880
tgggaccagg	tgggcagggt	cttcagttag	gtggatgcc	acctgatgct	ggcactctac	2940
aataactcct	tctacaccg	caaggagtcc	tatgactatc	aggcagcctg	tgccccctcag	3000
ccccctggca	acctgggtgc	tgcaccccg	gggtgtctttg	tgccccaccgt	tgcagatttc	3060
cttaacctgg	cctgggtggac	ctctgctgcc	gcctgggtccc	tgttccagca	gcttctctac	3120
ggcctcatct	accacagctg	gttccaagca	gacccgcgg	aggccgagg	gagccccgag	3180
acgcgcgaga	gcagctgcgt	catgaaacag	acccagtact	acttcggctc	ggtaaaccgc	3240
tcctacaacg	ccatcatcga	ctgcggaaac	tgctccaggc	tgttccacgc	gcagagactg	3300
accaacacca	atcttctctt	tgtgggtggc	gagaagccgc	tgtgcagcca	gtgcgaggct	3360
ggccggctgc	tgcagaagga	gacgcactgc	ccagcggacg	gcccggagca	gtgtgagcta	3420
gtgcagagac	cgcgataccg	gagaggcccg	cacatctgct	tcgactaaa	cgcgacagaa	3480
gatacctcag	actgtggccg	cggggcctcc	ttcccgcgt	cgctgggcgt	cctgggtctcc	3540
ctgcaactgc	tgtctctcct	gggcctgccc	ccccggccgc	agcctcaagt	cctcgtccac	3600
gcctctcgcc	gcctctgagc	accctgcccc	acccacctc	cactcccacc	tcacccggcc	3660
tcttcgcctt	tcaccacctc	ctgccccaca	ctccccgcct	tagagcctcg	tcctccctc	3720
actgaaggac	ctgagctggc	caggccctga	gagtctggtc	tgcgccttgg	gatggggagt	3780
cccaaagcgg	gacgccgcag	gtgtttggca	cccaaatac	atctcacctc	cgaactgttc	3840
aagtgtcccc	agacccttct	tgcctgctgg	gctccccca	gtgggatggg	acagggaggc	3900
cacacgcact	ggtgccaaaa	ccaggcctct	gctgccgccc	ttcctggagg	ctgcctatgt	3960
tgggggggac	cctgcctcag	ctgacccggc	ctctctgccc	cacccaagcc	caaacttgg	4020
ttctgtgaga	atagtggagg	aagggtgagat	ggccagtttg	aagcctgtgc	ctcccagctt	4080
aaatcctagc	aggagagagg	ctctggggca	gcccccatgg	gctcctgccc	ctttcaggcc	4140
tacagccaca	tcaccaagcc	caccaggtgt	caggatagtc	acagtgatac	cagttcagac	4200
actaccccat	atacacctgg	aacattgagg	atggaaactg	gactcacatt	cgacataccc	4260
cactgggcac	acgcacaaac	acacacacta	tggggtgggg	tgggtgtagg	ggcttataaaa	4320
gccttacaca	gggcgagggg	ttggtgggag	ggttggcacc	tgcacactcc	atctcctgct	4380
caccacctgc	ctctaactctg	agctgcagcc	tggctgggtcc	tccattttct	aaagctgaat	4440
gtcaaacagt	gccaaatgct	ggggcagggg	gtgaagaacc	ctctgtccca	cccctagcca	4500
ccagtgtcct	ccaagtgccc	cctcacctct	ccagggtgctc	attgtaacca	tttctcacta	4560
gtgtcaggcc	cccagtggga	ccacatgcc	ctgcctgcac	ctttcggcag	aggaaacccc	4620
accagacatc	accctttgcc	ttagcagggg	tgactttgtc	tctcctggct	gggccatcct	4680
tcgcceaate	tggcccttac	acactcaggc	ctgtgcccac	tccttatctc	cttcccaccc	4740
ctacacacac	actccctgct	tgcaggaggc	caaactgtcc	ctcccttgct	gaacacacac	4800
acacacacac	acacacaggt	ggggactggg	cacagctctt	cacaccattc	attctggtca	4860
tttcccccaa	aggcatccca	gcctgggggc	cagtggggaa	ctgagggcaa	ggggatatag	4920
tgatggggct	cagatggact	gggaggaggg	ggagggtgat	gcattaatta	atggcttcgt	4980
taattaatgt	catgttgctt	gtcgctttct	cagtgtgtgt	gtgtgggtcca	tgcccactgc	5040
tgggtgccagg	gtgggtgtcc	atgtgcaccc	ggcctggatg	ccagctgtgt	ccttcggggg	5100
cgtgcgtgta	actgtagtgt	agtcagggtgc	tcaatggaga	atataaacat	atacagaaaa	5160

atatataat ttaagtttaaaa aaacagaaaa acagacaaaa caatcccat caggtagctg 5220
 tctaaccccc agctgggtct aatccttctc attaccacc cgacctggct gcccctcacc 5280
 ttgggctggg ggactggggg gccatttcct tttctctgcc cttttttgt tgttctat 5340
 tgtacagaca agttggaaaa acaacagcga caaaaaagtc aagaaacttt gtaaaatc 5400
 gtgtgtgtga ttccttgtaa aatattttca aatgggttat tacagaagat cagttattaa 5460
 ataatgttca tattttcact tc 5482

<210> 20

<211> 1145

<212> PRT

<213> Homo sapiens

<400> 20

Met Ala Val Pro Ala Arg Thr Cys Gly Ala Ser Arg Pro Gly Pro Ala
 1 5 10 15

Arg Thr Ala Arg Pro Trp Pro Gly Cys Gly Pro His Pro Gly Pro Gly
 20 25 30

Thr Arg Arg Pro Thr Ser Gly Pro Pro Arg Pro Leu Trp Leu Leu Leu
 35 40 45

Pro Leu Leu Pro Leu Leu Ala Ala Pro Gly Ala Ser Ala Tyr Ser Phe
 50 55 60

Pro Gln Gln His Thr Met Gln His Trp Ala Arg Arg Leu Glu Gln Glu
 65 70 75 80

Val Asp Gly Val Met Arg Ile Phe Gly Gly Val Gln Gln Leu Arg Glu
 85 90 95

Ile Tyr Lys Asp Asn Arg Asn Leu Phe Glu Val Gln Glu Asn Glu Pro
 100 105 110

Gln Lys Leu Val Glu Lys Val Ala Gly Asp Ile Glu Ser Leu Leu Asp
 115 120 125

Arg Lys Val Gln Ala Leu Lys Arg Leu Ala Asp Ala Ala Glu Asn Phe
 130 135 140

Gln Lys Ala His Arg Trp Gln Asp Asn Ile Lys Glu Glu Asp Ile Val
 145 150 155 160

Tyr Tyr Asp Ala Lys Ala Asp Ala Glu Leu Asp Asp Pro Glu Ser Glu
 165 170 175

Asp Val Glu Arg Gly Ser Lys Ala Ser Thr Leu Arg Leu Asp Phe Ile

				180				185				190			
Glu	Asp	Pro	Asn	Phe	Lys	Asn	Lys	Val	Asn	Tyr	Ser	Tyr	Ala	Ala	Val
195				200				205							
Gln	Ile	Pro	Thr	Asp	Ile	Tyr	Lys	Gly	Ser	Thr	Val	Ile	Leu	Asn	Glu
210				215				220							
Leu	Asn	Trp	Thr	Glu	Ala	Leu	Glu	Asn	Val	Phe	Met	Glu	Asn	Arg	Arg
225				230				235				240			
Gln	Asp	Pro	Thr	Leu	Leu	Trp	Gln	Val	Phe	Gly	Ser	Ala	Thr	Gly	Val
				245				250				255			
Thr	Arg	Tyr	Tyr	Pro	Ala	Thr	Pro	Trp	Arg	Ala	Pro	Lys	Lys	Ile	Asp
260				265				270							
Leu	Tyr	Asp	Val	Arg	Arg	Arg	Pro	Trp	Tyr	Ile	Gln	Gly	Ala	Ser	Ser
275				280				285							
Pro	Lys	Asp	Met	Val	Ile	Ile	Val	Asp	Val	Ser	Gly	Ser	Val	Ser	Gly
290				295				300							
Leu	Thr	Leu	Lys	Leu	Met	Lys	Thr	Ser	Val	Cys	Glu	Met	Leu	Asp	Thr
305				310				315				320			
Leu	Ser	Asp	Asp	Asp	Tyr	Val	Asn	Val	Ala	Ser	Phe	Asn	Glu	Lys	Ala
				325				330				335			
Gln	Pro	Val	Ser	Cys	Phe	Thr	His	Leu	Val	Gln	Ala	Asn	Val	Arg	Asn
340				345				350							
Lys	Lys	Val	Phe	Lys	Glu	Ala	Val	Gln	Gly	Met	Val	Ala	Lys	Gly	Thr
355				360				365							
Thr	Gly	Tyr	Lys	Ala	Gly	Phe	Glu	Tyr	Ala	Phe	Asp	Gln	Leu	Gln	Asn
370				375				380							
Ser	Asn	Ile	Thr	Arg	Ala	Asn	Cys	Asn	Lys	Met	Ile	Met	Met	Phe	Thr
385				390				395				400			
Asp	Gly	Gly	Glu	Asp	Arg	Val	Gln	Asp	Val	Phe	Glu	Lys	Tyr	Asn	Trp
				405				410				415			
Pro	Asn	Arg	Thr	Val	Arg	Val	Phe	Thr	Phe	Ser	Val	Gly	Gln	His	Asn
420				425				430							
Tyr	Asp	Val	Thr	Pro	Leu	Gln	Trp	Met	Ala	Cys	Ala	Asn	Lys	Gly	Tyr

435	440	445
Tyr Phe Glu Ile Pro Ser Ile Gly Ala Ile Arg Ile Asn Thr Gln Glu		
450	455	460
Tyr Leu Asp Val Leu Gly Arg Pro Met Val Leu Ala Gly Lys Glu Ala		
465	470	475 480
Lys Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu Gly Leu Gly		
485	490	495
Leu Val Val Thr Gly Thr Leu Pro Val Phe Asn Leu Thr Gln Asp Gly		
500	505	510
Pro Gly Glu Lys Lys Asn Gln Leu Ile Leu Gly Val Met Gly Ile Asp		
515	520	525
Val Ala Leu Asn Asp Ile Lys Arg Leu Thr Pro Asn Tyr Thr Leu Gly		
530	535	540
Ala Asn Gly Tyr Val Phe Ala Ile Asp Leu Asn Gly Tyr Val Leu Leu		
545	550	555 560
His Pro Asn Leu Lys Pro Gln Thr Thr Asn Phe Arg Glu Pro Val Thr		
565	570	575
Leu Asp Phe Leu Asp Ala Glu Leu Glu Asp Glu Asn Lys Glu Glu Ile		
580	585	590
Arg Arg Ser Met Ile Asp Gly Asn Lys Gly His Lys Gln Ile Arg Thr		
595	600	605
Leu Val Lys Ser Leu Asp Glu Arg Tyr Ile Asp Glu Val Thr Arg Asn		
610	615	620
Tyr Thr Trp Val Pro Ile Arg Ser Thr Asn Tyr Ser Leu Gly Leu Val		
625	630	635 640
Leu Pro Pro Tyr Ser Thr Phe Tyr Leu Gln Ala Asn Leu Ser Asp Gln		
645	650	655
Ile Leu Gln Val Lys Tyr Phe Glu Phe Leu Leu Pro Ser Ser Phe Glu		
660	665	670
Ser Glu Gly His Val Phe Ile Ala Pro Arg Glu Tyr Cys Lys Asp Leu		
675	680	685
Asn Ala Ser Asp Asn Asn Thr Glu Phe Leu Lys Asn Phe Ile Glu Leu		

690	695	700
Met Glu Lys Val Thr Pro Asp Ser Lys Gln Cys Asn Asn Phe Leu Leu		
705	710	715 720
His Asn Leu Ile Leu Asp Thr Gly Ile Thr Gln Gln Leu Val Glu Arg		
	725	730 735
Val Trp Arg Asp Gln Asp Leu Asn Thr Tyr Ser Leu Leu Ala Val Phe		
	740	745 750
Ala Ala Thr Asp Gly Gly Ile Thr Arg Val Phe Pro Asn Lys Ala Ala		
	755	760 765
Glu Asp Trp Thr Glu Asn Pro Glu Pro Phe Asn Ala Ser Phe Tyr Arg		
	770	775 780
Arg Ser Leu Asp Asn His Gly Tyr Val Phe Lys Pro Pro His Gln Asp		
	785	790 795 800
Ala Leu Leu Arg Pro Leu Glu Leu Glu Asn Asp Thr Val Gly Ile Leu		
	805	810 815
Val Ser Thr Ala Val Glu Leu Ser Leu Gly Arg Arg Thr Leu Arg Pro		
	820	825 830
Ala Val Val Gly Val Lys Leu Asp Leu Glu Ala Trp Ala Glu Lys Phe		
	835	840 845
Lys Val Leu Ala Ser Asn Arg Thr His Gln Asp Gln Pro Gln Lys Cys		
	850	855 860
Gly Pro Asn Ser His Cys Glu Met Asp Cys Glu Val Asn Asn Glu Asp		
	865	870 875 880
Leu Leu Cys Val Leu Ile Asp Asp Gly Gly Phe Leu Val Leu Ser Asn		
	885	890 895
Gln Asn His Gln Trp Asp Gln Val Gly Arg Phe Phe Ser Glu Val Asp		
	900	905 910
Ala Asn Leu Met Leu Ala Leu Tyr Asn Asn Ser Phe Tyr Thr Arg Lys		
	915	920 925
Glu Ser Tyr Asp Tyr Gln Ala Ala Cys Ala Pro Gln Pro Pro Gly Asn		
	930	935 940
Leu Gly Ala Ala Pro Arg Gly Val Phe Val Pro Thr Val Ala Asp Phe		

945	950	955	960
Leu Asn Leu Ala Trp Trp Thr Ser Ala Ala Ala Trp Ser Leu Phe Gln			
965	970	975	
Gln Leu Leu Tyr Gly Leu Ile Tyr His Ser Trp Phe Gln Ala Asp Pro			
980	985	990	
Ala Glu Ala Glu Gly Ser Pro Glu Thr Arg Glu Ser Ser Cys Val Met			
995	1000	1005	
Lys Gln Thr Gln Tyr Tyr Phe Gly Ser Val Asn Ala Ser Tyr Asn Ala			
1010	1015	1020	
Ile Ile Asp Cys Gly Asn Cys Ser Arg Leu Phe His Ala Gln Arg Leu			
1025	1030	1035	1040
Thr Asn Thr Asn Leu Leu Phe Val Val Ala Glu Lys Pro Leu Cys Ser			
1045	1050	1055	
Gln Cys Glu Ala Gly Arg Leu Leu Gln Lys Glu Thr His Cys Pro Ala			
1060	1065	1070	
Asp Gly Pro Glu Gln Cys Glu Leu Val Gln Arg Pro Arg Tyr Arg Arg			
1075	1080	1085	
Gly Pro His Ile Cys Phe Asp Tyr Asn Ala Thr Glu Asp Thr Ser Asp			
1090	1095	1100	
Cys Gly Arg Gly Ala Ser Phe Pro Pro Ser Leu Gly Val Leu Val Ser			
1105	1110	1115	1120
Leu Gln Leu Leu Leu Leu Leu Gly Leu Pro Pro Arg Pro Gln Pro Gln			
1125	1130	1135	
Val Leu Val His Ala Ser Arg Arg Leu			
1140	1145		

<210> 21

<211> 3770

<212> DNA

<213> Homo sapiens

<400> 21

tactataggg cggccgcgaa ttcggcacga ggcggcgcgg agcggagcag gcagccccgc 60
gcgctcgccc accgcccgt cgcgcagct cccgcggcc gctctcgtcg ccgccgcagc 120
gggcgcgtcg gagggagccc agcatggccg ggccgggctc gccgcgccgc gcgtcccggg 180

gggcctcggc gcttctcgtc gccgcgcttc tctacgccgc gctggggggac gtggtgctgc 240
 cggagcagca gataccgctc tccgtgggtga agctctgggc ctccggctttt ggtggggaga 300
 taaaatccat tgctgctaag tactccggtt cccagcttct gcaaaagaaa taaaaagagt 360
 atgagaaaga cgttgccata gaagaaattg atggcctcca actggtaaag aagctggcaa 420
 agaacatgga agagatgttt cacaagaagt ctgaggccgt caggcgtctg gtggaggctg 480
 cagaagaagc acacctgaaa catgaatttg atgcagactt acagtatgaa tacttcaatg 540
 ctgtgctgat aaatgaaagg gacaaagacg ggaatttttt ggagctggga aaggaattca 600
 tcttagcccc aaatgaccat ttttaataatt tgcctgtgaa catcagtcta agtgacgtcc 660
 aagtaccaac gaacatgtac aacaaagacc ctgcaattgt caatgggggtt tattggctctg 720
 aatctctaaa caaagttttt gtagataact ttgaccgtga cccatctctc atatggcagt 780
 actttggaag tgcaaagggc ttttttaggc agtatccggg gattaaatgg gaaccagatg 840
 agaatggagt cattgccttc gactgcagga accgaaaatg gtacatccag gcagcaactt 900
 ctccgaaaga cgtggtcatt ttagttgacg tcagtggcag catgaaagga ctccgtctga 960
 ctatcgcgaa gcaaacagtc tcatccattt tggatacact tggggatgat gacttcttca 1020
 acataattgc ttataatgag gagcttcact atgtggaacc ttgcctgaat ggaacttttg 1080
 tgcaagccga caggacaaac aaagagcact tcaggagca tctggacaaa cttttcgcca 1140
 aaggaattgg aatgttggat atagctctga atgaggcctt caacattctg agtgatttca 1200
 accacacggg acaaggaagt atctgcagtc aggccatcat gctcataact gatggggcgg 1260
 tggacaccta tgatacaatc tttgcaaaat acaattggcc agatcgaaag gttcgcatct 1320
 tcacatacct cattggacga gaggtgctgc ttgcagacaa tctaaagtgg atggcctgtg 1380
 ccaacaaagg attttttacc cagatctcca ccttggctga tgtgcaggag aatgtcatgg 1440
 aataccttca cgtgcttagc cggcccaaag tcatcgacca ggagcatgat gtggtgtgga 1500
 ccgaagctta cattgacagc actctgactg atgatcaggg ccccgctctg atgaccactg 1560
 tagccatgcc tgtgttttagt aagcagaacg aaaccagatc gaagggcatt cttctgggag 1620
 tgggttggcac agatgtccca gtgaaagaac ttctgaagac catcccaaaa tacaagttag 1680
 ggattcacgg ttatgccttt gcaatcacia ataatggrta tatcctgacg catccggaac 1740
 tcaggctgct gtacgaagaa ggaaaaaagc gaaggaaacc taactatagt agcgttgacc 1800
 tctctgaggt ggagtgaggaa gaccgagatg acgtgttgag aaatgctatg gtgaatcgaa 1860
 agacggggaa gttttccatg gaggtgaaga agacagtgga caaagggaaa cgggttttg 1920
 tgatgacaaa tgactactat tatacagaca tcaagggtac tcccttcagt ttaggtgtgg 1980
 cgctttccag aggtcatggg aaatatttct tccgagggaa tgtaaccatc gaagaaggcc 2040
 tgcattgactt agaacatccc gatgtgtcct tggcagatga atggctctac tgcaacactg 2100
 acctacaccc tgagcaccgc catctgtctc agttagaagc gattaagctc tacctaaaag 2160
 gcaagaacc tctgctccag tgtgataaag aattgatcca agaagtcctt tttgacgcgg 2220
 tgggtgagtgc cccattgaa gcgatttggg ccagcctggc cctcaacaaa tctgaaaatt 2280
 ctgacaaggg cgtggaggtt gccttcctcg gcactcgac gggcctctcc agaatcaacc 2340
 tgtttgtcgg ggctgagcag ctccaccaatc aggacttcct gaaagctggc gacaaggaga 2400
 acatttttaa cgcagaccat ttccctctct ggtaccgaag agccgctgag cagattccag 2460
 ggagcttcgt ctactcgatc ccattcagca ctggaccagt caataaaagc aatgtggtga 2520
 cagcaagtac atccatccag ctctggatg aacggaaatc tctgtggtg gcagctgtag 2580
 gcattcagat gaaacttgaa tttttccaaa ggaagttctg gactgccagc agacagtgtg 2640
 cttccctgga tggcaaatgc tccatcagct gtgatgatga gactgtgaat tgttacctca 2700
 tagacaataa tggatttatt ttggtgtctg aagactacac acagactgga gacttttttg 2760
 gtgagatcga gggagctgtg atgaacaaat tgctaacaat gggctcctt aaaagaatta 2820
 ccctttatga ctaccaagcc atgtgtagag ccaacaagga aagcagcgat ggcgcccatg 2880
 gcctcctgga tccttataat gccttcctct ctgcagtaaa atggatcatg acagaacttg 2940
 tcttgttcct ggtggaattt aacctctgca gttggtggca ctccgatatg acagctaaag 3000
 ccagaaatt gaaacagacc ctggagcctt gtgatactga atatccagca ttcgtctctg 3060

```

agcgccacat caaggagact acaggaata ttgcttgta agactgctcc aagtccttg 3120
tcatccagca aatcccaagc agcaacctgt tcatgggtgt ggtggacagc agtcgcctct 3180
gtgaatctgt ggccccatc accatggcac ccattgaaat caggtataat gaatccctta 3240
agtgtgaacg tctaaaggcc cagaagatca gaaggcgccc agaattctgt catggcttcc 3300
atcctgagga gaatgcaagg gagtgtgggg gtgcgccgag tctccaagcc cagacagtcc 3360
tccttctgct ccctctgctt ttgatgctct tctcaagggt aactgactg agatgttctc 3420
ttactgactg agatgttctc ttggcatgct aaatcatgga taaactgtga accaaaatat 3480
ggtgcaacat acgagacatg aatatagtcc aaccatcagc atctcatcat gattttaaac 3540
tgtgcgtgat ataaactctt aaagatatgt tgacaaaaag ttatctatca tctttttact 3600
ttgccagtca tgcaaagtgt agtttgccac atgataatca cccttcatca gaaatgggac 3660
cgcaagtggg aggcagtgtc ccttctgctt gaaacctatt gaaaccaatt taaaactgtg 3720
tactttttaa ataaagtata ttaaaatcat aaaaaaaaaa aaaaaaaaaa 3770

```

<210> 22

<211> 1085

<212> PRT

<213> Homo sapiens

<400> 22

```

Met Ala Gly Pro Gly Ser Pro Arg Arg Ala Ser Arg Gly Ala Ser Ala
  1             5             10            15

Leu Leu Ala Ala Ala Leu Leu Tyr Ala Ala Leu Gly Asp Val Val Arg
      20             25             30

Ser Glu Gln Gln Ile Pro Leu Ser Val Val Lys Leu Trp Ala Ser Ala
      35             40             45

Phe Gly Gly Glu Ile Lys Ser Ile Ala Ala Lys Tyr Ser Gly Ser Gln
      50             55             60

Leu Leu Gln Lys Lys Tyr Lys Glu Tyr Glu Lys Asp Val Ala Ile Glu
      65             70             75             80

Glu Ile Asp Gly Leu Gln Leu Val Lys Lys Leu Ala Lys Asn Met Glu
      85             90             95

Glu Met Phe His Lys Lys Ser Glu Ala Val Arg Arg Leu Val Glu Ala
      100            105            110

Ala Glu Glu Ala His Leu Lys His Glu Phe Asp Ala Asp Leu Gln Tyr
      115            120            125

Glu Tyr Phe Asn Ala Val Leu Ile Asn Glu Arg Asp Lys Asp Gly Asn
      130            135            140

Phe Leu Glu Leu Gly Lys Glu Phe Ile Leu Ala Pro Asn Asp His Phe

```

145		150		155		160
Asn Asn Leu Pro Val	Asn Ile Ser Leu Ser Asp Val Gln Val Pro Thr					
	165		170		175	
Asn Met Tyr Asn Lys Asp Pro Ala Ile Val Asn Gly Val Tyr Trp Ser						
	180		185		190	
Glu Ser Leu Asn Lys Val Phe Val Asp Asn Phe Asp Arg Asp Pro Ser						
	195		200		205	
Leu Ile Trp Gln Tyr Phe Gly Ser Ala Lys Gly Phe Phe Arg Gln Tyr						
	210		215		220	
Pro Gly Ile Lys Trp Glu Pro Asp Glu Asn Gly Val Ile Ala Phe Asp						
	225		230		235	240
Cys Arg Asn Arg Lys Trp Tyr Ile Gln Ala Ala Thr Ser Pro Lys Asp						
	245		250		255	
Val Val Ile Leu Val Asp Val Ser Gly Ser Met Lys Gly Leu Arg Leu						
	260		265		270	
Thr Ile Ala Lys Gln Thr Val Ser Ser Ile Leu Asp Thr Leu Gly Asp						
	275		280		285	
Asp Asp Phe Phe Asn Ile Ile Ala Tyr Asn Glu Glu Leu His Tyr Val						
	290		295		300	
Glu Pro Cys Leu Asn Gly Thr Leu Val Gln Ala Asp Arg Thr Asn Lys						
	305		310		315	320
Glu His Phe Arg Glu His Leu Asp Lys Leu Phe Ala Lys Gly Ile Gly						
	325		330		335	
Met Leu Asp Ile Ala Leu Asn Glu Ala Phe Asn Ile Leu Ser Asp Phe						
	340		345		350	
Asn His Thr Gly Gln Gly Ser Ile Cys Ser Gln Ala Ile Met Leu Ile						
	355		360		365	
Thr Asp Gly Ala Val Asp Thr Tyr Asp Thr Ile Phe Ala Lys Tyr Asn						
	370		375		380	
Trp Pro Asp Arg Lys Val Arg Ile Phe Thr Tyr Leu Ile Gly Arg Glu						
	385		390		395	400
Ala Ala Phe Ala Asp Asn Leu Lys Trp Met Ala Cys Ala Asn Lys Gly						

	405		410		415
Phe Phe Thr Gln Ile Ser Thr Leu Ala Asp Val Gln Glu Asn Val Met					
	420		425		430
Glu Tyr Leu His Val Leu Ser Arg Pro Lys Val Ile Asp Gln Glu His					
	435		440		445
Asp Val Val Trp Thr Glu Ala Tyr Ile Asp Ser Thr Leu Thr Asp Asp					
	450		455		460
Gln Gly Pro Val Leu Met Thr Thr Val Ala Met Pro Val Phe Ser Lys					
	465		470		475
Gln Asn Glu Thr Arg Ser Lys Gly Ile Leu Leu Gly Val Val Gly Thr					
	485		490		495
Asp Val Pro Val Lys Glu Leu Leu Lys Thr Ile Pro Lys Tyr Lys Leu					
	500		505		510
Gly Ile His Gly Tyr Ala Phe Ala Ile Thr Asn Asn Gly Tyr Ile Leu					
	515		520		525
Thr His Pro Glu Leu Arg Leu Leu Tyr Glu Glu Gly Lys Lys Arg Arg					
	530		535		540
Lys Pro Asn Tyr Ser Ser Val Asp Leu Ser Glu Val Glu Trp Glu Asp					
	545		550		555
Arg Asp Asp Val Leu Arg Asn Ala Met Val Asn Arg Lys Thr Gly Lys					
	565		570		575
Phe Ser Met Glu Val Lys Lys Thr Val Asp Lys Gly Lys Arg Val Leu					
	580		585		590
Val Met Thr Asn Asp Tyr Tyr Tyr Thr Asp Ile Lys Gly Thr Pro Phe					
	595		600		605
Ser Leu Gly Val Ala Leu Ser Arg Gly His Gly Lys Tyr Phe Phe Arg					
	610		615		620
Gly Asn Val Thr Ile Glu Glu Gly Leu His Asp Leu Glu His Pro Asp					
	625		630		635
Val Ser Leu Ala Asp Glu Trp Ser Tyr Cys Asn Thr Asp Leu His Pro					
	645		650		655
Glu His Arg His Leu Ser Gln Leu Glu Ala Ile Lys Leu Tyr Leu Lys					

660	665	670
Gly Lys Glu Pro Leu Leu Gln Cys Asp Lys Glu Leu Ile Gln Glu Val		
675	680	685
Leu Phe Asp Ala Val Val Ser Ala Pro Ile Glu Ala Tyr Trp Thr Ser		
690	695	700
Leu Ala Leu Asn Lys Ser Glu Asn Ser Asp Lys Gly Val Glu Val Ala		
705	710	715
Phe Leu Gly Thr Arg Thr Gly Leu Ser Arg Ile Asn Leu Phe Val Gly		
	725	730
Ala Glu Gln Leu Thr Asn Gln Asp Phe Leu Lys Ala Gly Asp Lys Glu		
	740	745
Asn Ile Phe Asn Ala Asp His Phe Pro Leu Trp Tyr Arg Arg Ala Ala		
	755	760
Glu Gln Ile Pro Gly Ser Phe Val Tyr Ser Ile Pro Phe Ser Thr Gly		
	770	775
Pro Val Asn Lys Ser Asn Val Val Thr Ala Ser Thr Ser Ile Gln Leu		
	785	790
Leu Asp Glu Arg Lys Ser Pro Val Val Ala Ala Val Gly Ile Gln Met		
	805	810
Lys Leu Glu Phe Phe Gln Arg Lys Phe Trp Thr Ala Ser Arg Gln Cys		
	820	825
Ala Ser Leu Asp Gly Lys Cys Ser Ile Ser Cys Asp Asp Glu Thr Val		
	835	840
Asn Cys Tyr Leu Ile Asp Asn Asn Gly Phe Ile Leu Val Ser Glu Asp		
	850	855
Tyr Thr Gln Thr Gly Asp Phe Phe Gly Glu Ile Glu Gly Ala Val Met		
	865	870
Asn Lys Leu Leu Thr Met Gly Ser Phe Lys Arg Ile Thr Leu Tyr Asp		
	885	890
Tyr Gln Ala Met Cys Arg Ala Asn Lys Glu Ser Ser Asp Gly Ala His		
	900	905
Gly Leu Leu Asp Pro Tyr Asn Ala Phe Leu Ser Ala Val Lys Trp Ile		

915	920	925
Met Thr Glu Leu Val	Leu Phe Leu Val Glu Phe Asn Leu Cys Ser Trp	
930	935	940
Trp His Ser Asp Met Thr Ala Lys Ala Gln Lys Leu Lys Gln Thr Leu		
945	950	955 960
Glu Pro Cys Asp Thr Glu Tyr Pro Ala Phe Val Ser Glu Arg Thr Ile		
965	970	975
Lys Glu Thr Thr Gly Asn Ile Ala Cys Glu Asp Cys Ser Lys Ser Phe		
980	985	990
Val Ile Gln Gln Ile Pro Ser Ser Asn Leu Phe Met Val Val Val Asp		
995	1000	1005
Ser Ser Cys Leu Cys Glu Ser Val Ala Pro Ile Thr Met Ala Pro Ile		
1010	1015	1020
Glu Ile Arg Tyr Asn Glu Ser Leu Lys Cys Glu Arg Leu Lys Ala Gln		
1025	1030	1035 1040
Lys Ile Arg Arg Arg Pro Glu Ser Cys His Gly Phe His Pro Glu Glu		
1045	1050	1055
Asn Ala Arg Glu Cys Gly Gly Ala Pro Ser Leu Gln Ala Gln Thr Val		
1060	1065	1070
Leu Leu Leu Leu Pro Leu Leu Leu Met Leu Phe Ser Arg		
1075	1080	1085

<210> 23

<211> 1115

<212> PRT

<213> Homo sapiens

<400> 23

Met Ala Val Pro Ala Arg Thr Cys Gly Ala Ser Arg Pro Gly Pro Ala
1 5 10 15
Arg Thr Ala Arg Pro Trp Pro Gly Cys Gly Pro His Pro Gly Pro Gly
20 25 30
Thr Arg Arg Pro Thr Ser Gly Pro Pro Arg Pro Leu Trp Leu Leu Leu
35 40 45

Pro	Leu	Leu	Pro	Leu	Leu	Ala	Ala	Pro	Gly	Ala	Ser	Ala	Tyr	Ser	Phe	50	55	60	
Pro	Gln	Gln	His	Thr	Met	Gln	His	Trp	Ala	Arg	Arg	Leu	Glu	Gln	Glu	65	70	75	80
Val	Asp	Gly	Val	Met	Arg	Ile	Phe	Gly	Gly	Val	Gln	Gln	Leu	Arg	Glu	85	90	95	
Ile	Tyr	Lys	Asp	Asn	Arg	Asn	Leu	Phe	Glu	Val	Gln	Glu	Asn	Glu	Pro	100	105	110	
Gln	Lys	Leu	Val	Glu	Lys	Val	Ala	Gly	Asp	Ile	Glu	Ser	Leu	Leu	Asp	115	120	125	
Arg	Lys	Val	Gln	Ala	Leu	Lys	Arg	Leu	Ala	Asp	Ala	Ala	Glu	Asn	Phe	130	135	140	
Gln	Lys	Ala	His	Arg	Trp	Gln	Asp	Asn	Ile	Lys	Glu	Glu	Asp	Ile	Val	145	150	155	160
Tyr	Tyr	Asp	Ala	Lys	Ala	Asp	Ala	Glu	Leu	Asp	Asp	Pro	Glu	Ser	Glu	165	170	175	
Asp	Val	Glu	Arg	Gly	Ser	Lys	Ala	Ser	Thr	Leu	Arg	Leu	Asp	Phe	Ile	180	185	190	
Glu	Asp	Pro	Asn	Phe	Lys	Asn	Lys	Val	Asn	Tyr	Ser	Tyr	Ala	Ala	Val	195	200	205	
Gln	Ile	Pro	Thr	Asp	Ile	Tyr	Lys	Gly	Ser	Thr	Val	Ile	Leu	Asn	Glu	210	215	220	
Leu	Asn	Trp	Thr	Glu	Ala	Leu	Glu	Asn	Val	Phe	Met	Glu	Asn	Arg	Arg	225	230	235	240
Gln	Asp	Pro	Thr	Leu	Leu	Trp	Gln	Val	Phe	Gly	Ser	Ala	Thr	Gly	Val	245	250	255	
Thr	Arg	Tyr	Tyr	Pro	Ala	Thr	Pro	Trp	Arg	Ala	Pro	Lys	Lys	Ile	Asp	260	265	270	
Leu	Tyr	Asp	Val	Arg	Arg	Arg	Pro	Trp	Tyr	Ile	Gln	Gly	Ala	Ser	Ser	275	280	285	
Pro	Lys	Asp	Met	Val	Ile	Ile	Val	Asp	Val	Ser	Gly	Ser	Val	Ser	Gly	290	295	300	

Leu Thr Leu Lys Leu Met Lys Thr Ser Val Cys Glu Met Leu Asp Thr
 305 310 315 320
 Leu Ser Asp Asp Asp Tyr Val Asn Val Ala Ser Phe Asn Glu Lys Ala
 325 330 335
 Gln Pro Val Ser Cys Phe Thr His Leu Val Gln Ala Asn Val Arg Asn
 340 345 350
 Lys Lys Val Phe Lys Glu Ala Val Gln Gly Met Val Ala Lys Gly Thr
 355 360 365
 Thr Gly Tyr Lys Ala Gly Phe Glu Tyr Ala Phe Asp Gln Leu Gln Asn
 370 375 380
 Ser Asn Ile Thr Arg Ala Asn Cys Asn Lys Met Ile Met Met Phe Thr
 385 390 395 400
 Asp Gly Gly Glu Asp Arg Val Gln Asp Val Phe Glu Lys Tyr Asn Trp
 405 410 415
 Pro Asn Arg Thr Val Arg Val Phe Thr Phe Ser Val Gly Gln His Asn
 420 425 430
 Tyr Asp Val Thr Pro Leu Gln Trp Met Ala Cys Ala Asn Lys Gly Tyr
 435 440 445
 Tyr Phe Glu Ile Pro Ser Ile Gly Ala Ile Arg Ile Asn Thr Gln Glu
 450 455 460
 Tyr Leu Asp Val Leu Gly Arg Pro Met Val Leu Ala Gly Lys Glu Ala
 465 470 475 480
 Lys Gln Val Gln Trp Thr Asn Val Tyr Glu Asp Ala Leu Gly Leu Gly
 485 490 495
 Leu Val Val Thr Gly Thr Leu Pro Val Phe Asn Leu Thr Gln Asp Gly
 500 505 510
 Pro Gly Glu Lys Lys Asn Gln Leu Ile Leu Gly Val Met Gly Ile Asp
 515 520 525
 Val Ala Leu Asn Asp Ile Lys Arg Leu Thr Pro Asn Tyr Thr Leu Gly
 530 535 540
 Ala Asn Gly Tyr Val Phe Ala Ile Asp Leu Asn Gly Tyr Val Leu Leu
 545 550 555 560

His	Pro	Asn	Leu	Lys	Pro	Gln	Thr	Thr	Asn	Phe	Arg	Glu	Pro	Val	Thr	565	570	575
Leu	Asp	Phe	Leu	Asp	Ala	Glu	Leu	Glu	Asp	Glu	Asn	Lys	Glu	Glu	Ile	580	585	590
Arg	Arg	Ser	Met	Ile	Asp	Gly	Asn	Lys	Gly	His	Lys	Gln	Ile	Arg	Thr	595	600	605
Leu	Val	Lys	Ser	Leu	Asp	Glu	Arg	Tyr	Ile	Asp	Glu	Val	Thr	Arg	Asn	610	615	620
Tyr	Thr	Trp	Val	Pro	Ile	Arg	Ser	Thr	Asn	Tyr	Ser	Leu	Gly	Leu	Val	625	630	635
Leu	Pro	Pro	Tyr	Ser	Thr	Phe	Tyr	Leu	Gln	Ala	Asn	Leu	Ser	Asp	Gln	645	650	655
Ile	Leu	Gln	Val	Lys	Tyr	Phe	Glu	Phe	Leu	Leu	Pro	Ser	Ser	Phe	Glu	660	665	670
Ser	Glu	Gly	His	Val	Phe	Ile	Ala	Pro	Arg	Glu	Tyr	Cys	Lys	Asp	Leu	675	680	685
Asn	Ala	Ser	Asp	Asn	Asn	Thr	Glu	Phe	Leu	Lys	Asn	Phe	Ile	Glu	Leu	690	695	700
Met	Glu	Lys	Val	Thr	Pro	Asp	Ser	Lys	Gln	Cys	Asn	Asn	Phe	Leu	Leu	705	710	715
His	Asn	Leu	Ile	Leu	Asp	Thr	Gly	Ile	Thr	Gln	Gln	Leu	Val	Glu	Arg	725	730	735
Val	Trp	Arg	Asp	Gln	Asp	Leu	Asn	Thr	Tyr	Ser	Leu	Leu	Ala	Val	Phe	740	745	750
Ala	Ala	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Phe	Pro	Asn	Lys	Ala	Ala	755	760	765
Glu	Asp	Trp	Thr	Glu	Asn	Pro	Glu	Pro	Phe	Asn	Ala	Ser	Phe	Tyr	Arg	770	775	780
Arg	Ser	Leu	Asp	Asn	His	Gly	Tyr	Val	Phe	Lys	Pro	Pro	His	Gln	Asp	785	790	795
Ala	Leu	Leu	Arg	Pro	Leu	Glu	Leu	Glu	Asn	Asp	Thr	Val	Gly	Ile	Leu	805	810	815

Val Ser Thr Ala	Val Glu Leu Ser Leu Gly Arg Arg Thr Leu Arg Pro
820	825 830
Ala Val Val Gly Val Lys Leu Asp Leu Glu Ala Trp Ala Glu Lys Phe	
835	840 845
Lys Val Leu Ala Ser Asn Arg Thr His Gln Asp Gln Pro Gln Lys Cys	
850	855 860
Gly Pro Asn Ser His Cys Glu Met Asp Cys Glu Val Asn Asn Glu Asp	
865	870 875 880
Leu Leu Cys Val Leu Ile Asp Asp Gly Gly Phe Leu Val Leu Ser Asn	
885	890 895
Gln Asn His Gln Trp Asp Gln Val Gly Arg Phe Phe Ser Glu Val Asp	
900	905 910
Ala Asn Leu Met Leu Ala Leu Tyr Asn Asn Ser Phe Tyr Thr Arg Lys	
915	920 925
Glu Ser Tyr Asp Tyr Gln Ala Ala Cys Ala Pro Gln Pro Pro Gly Asn	
930	935 940
Leu Gly Ala Ala Pro Arg Gly Val Phe Val Pro Thr Val Ala Asp Phe	
945	950 955 960
Leu Asn Leu Ala Trp Trp Thr Ser Ala Ala Ala Trp Ser Leu Phe Gln	
965	970 975
Gln Leu Leu Tyr Gly Leu Ile Tyr His Ser Trp Phe Gln Ala Asp Pro	
980	985 990
Ala Glu Ala Glu Gly Ser Pro Glu Thr Arg Glu Ser Ser Cys Val Met	
995	1000 1005
Lys Gln Thr Gln Tyr Tyr Phe Gly Ser Val Asn Ala Ser Tyr Asn Ala	
1010	1015 1020
Ile Ile Asp Cys Gly Asn Cys Ser Arg Leu Phe His Ala Gln Arg Leu	
1025	1030 1035 1040
Thr Asn Thr Asn Leu Leu Phe Val Val Ala Glu Lys Pro Leu Cys Ser	
1045	1050 1055
Gln Cys Glu Ala Gly Arg Leu Leu Gln Lys Glu Thr His Cys Pro Ala	
1060	1065 1070

Asp Gly Pro Glu Gln Cys Glu Leu Val Gln Arg Pro Arg Tyr Arg Arg
 1075 1080 1085

Gly Pro His Ile Cys Phe Asp Tyr Asn Ala Thr Glu Asp Thr Ser Asp
 1090 1095 1100

Cys Gly Arg Gly Ala His His His His His His
 1105 1110 1115

<210> 24

<211> 1077

<212> PRT

<213> Mus musculus

<400> 24

Met Ala Gly Pro Gly Ser Leu Cys Cys Ala Ser Arg Gly Ala Ser Ala
 1 5 10 15

Leu Leu Ala Thr Ala Leu Leu Tyr Ala Ala Leu Gly Asp Val Val Arg
 20 25 30

Ser Glu Gln Gln Ile Pro Leu Ser Val Val Lys Leu Trp Ala Ser Ala
 35 40 45

Phe Gly Gly Glu Ile Lys Ser Ile Ala Ala Lys Tyr Ser Gly Ser Gln
 50 55 60

Leu Leu Gln Lys Lys Tyr Lys Glu Tyr Glu Lys Asp Val Ala Ile Glu
 65 70 75 80

Glu Ile Asp Gly Leu Gln Leu Val Lys Lys Leu Ala Lys Ile Met Glu
 85 90 95

Glu Met Phe His Lys Lys Ser Glu Ala Val Arg Arg Leu Val Glu Ala
 100 105 110

Ala Glu Glu Ala His Leu Lys His Glu Phe Asp Ala Asp Leu Gln Tyr
 115 120 125

Glu Tyr Phe Asn Ala Val Leu Ile Asn Glu Arg Asp Lys Asp Gly Asn
 130 135 140

Phe Leu Glu Leu Gly Lys Glu Phe Ile Leu Ala Pro Asn Asp His Phe
 145 150 155 160

Asn Asn Leu Pro Val Asn Ile Ser Leu Ser Asp Val Gln Val Pro Thr
 165 170 175

Asn Met Tyr	Asn Lys Asp	Pro Ala Ile	Val Asn Gly	Val Tyr Trp Ser
180		185		190
Glu Ser Leu	Asn Lys Val	Phe Val Asp	Asn Phe Asp	Arg Asp Pro Ser
195		200		205
Leu Ile Trp	Gln Tyr Phe	Gly Ser Ala	Lys Gly Phe	Phe Arg Gln Tyr
210		215		220
Pro Gly Ile	Lys Trp Glu	Pro Asp Glu	Asn Gly Val	Ile Ala Phe Asp
225		230		235
Cys Arg Asn	Arg Lys Trp	Tyr Ile Gln	Ala Ala Thr	Ser Pro Lys Asp
	245		250	255
Val Val Ile	Leu Val Asp	Val Ser Gly	Ser Met Lys	Gly Leu Arg Leu
	260		265	270
Thr Ile Ala	Lys Gln Thr	Val Ser Ser	Ile Leu Asp	Thr Leu Gly Asp
	275		280	285
Asp Asp Phe	Phe Asn Ile	Ile Thr Tyr	Asn Glu Glu	Leu His Tyr Val
290		295		300
Glu Pro Cys	Leu Asn Gly	Thr Leu Val	Gln Ala Asp	Arg Thr Asn Lys
305		310		315
Glu His Phe	Arg Glu His	Leu Asp Lys	Leu Phe Ala	Lys Gly Ile Gly
	325		330	335
Met Leu Asp	Ile Ala Leu	Asn Glu Ala	Phe Asn Ile	Leu Ser Asp Phe
	340		345	350
Asn His Thr	Gly Gln Gly	Ser Ile Cys	Ser Gln Ala	Ile Met Leu Ile
	355		360	365
Thr Asp Gly	Ala Val Asp	Thr Tyr Asp	Thr Ile Phe	Ala Lys Tyr Asn
	370		375	380
Trp Pro Asp	Arg Lys Val	Arg Ile Phe	Thr Tyr Leu	Ile Gly Arg Glu
385		390		395
Ala Ala Phe	Ala Asp Asn	Leu Lys Trp	Met Ala Cys	Ala Asn Lys Gly
	405		410	415
Phe Phe Thr	Gln Ile Ser	Thr Leu Ala	Asp Val Gln	Glu Asn Val Met
	420		425	430

Glu Tyr Leu His Val Leu Ser Arg Pro Lys Val Ile Asp Gln Glu His
 435 440 445
 Asp Val Val Trp Thr Glu Ala Tyr Ile Asp Ser Thr Leu Pro Gln Ala
 450 455 460
 Gln Lys Leu Ala Asp Asp Gln Gly Leu Val Leu Met Thr Thr Val Ala
 465 470 475 480
 Met Pro Val Phe Ser Lys Gln Asn Glu Thr Arg Ser Lys Gly Ile Leu
 485 490 495
 Leu Gly Val Val Gly Thr Asp Val Pro Val Lys Glu Leu Leu Lys Thr
 500 505 510
 Ile Pro Lys Tyr Lys Leu Gly Ile His Gly Tyr Ala Phe Ala Ile Thr
 515 520 525
 Asn Asn Gly Tyr Ile Leu Thr His Pro Glu Leu Arg Pro Leu Tyr Glu
 530 535 540
 Glu Gly Lys Lys Arg Arg Lys Pro Asn Tyr Ser Ser Val Asp Leu Ser
 545 550 555 560
 Glu Val Glu Trp Glu Asp Arg Asp Asp Val Leu Arg Asn Ala Met Val
 565 570 575
 Asn Arg Lys Thr Gly Lys Phe Ser Met Glu Val Lys Lys Thr Val Asp
 580 585 590
 Lys Gly Lys Arg Val Leu Val Met Thr Asn Asp Tyr Tyr Tyr Thr Asp
 595 600 605
 Ile Lys Gly Thr Pro Phe Ser Leu Gly Val Ala Leu Ser Arg Gly His
 610 615 620
 Gly Lys Tyr Phe Phe Arg Gly Asn Val Thr Ile Glu Glu Gly Leu His
 625 630 635 640
 Asp Leu Glu His Pro Asp Val Ser Leu Ala Asp Glu Trp Ser Tyr Cys
 645 650 655
 Asn Thr Asp Leu His Pro Glu His Arg His Leu Ser Gln Leu Glu Ala
 660 665 670
 Ile Lys Leu Tyr Leu Lys Gly Lys Glu Pro Leu Leu Gln Cys Asp Lys
 675 680 685

Glu	Leu	Ile	Gln	Glu	Val	Leu	Phe	Asp	Ala	Val	Val	Ser	Ala	Pro	Ile	690	695	700
Glu	Ala	Tyr	Trp	Thr	Ser	Leu	Ala	Leu	Asn	Lys	Ser	Glu	Asn	Ser	Asp	705	710	715
Lys	Gly	Val	Glu	Val	Ala	Phe	Leu	Gly	Thr	Arg	Thr	Gly	Leu	Ser	Arg	725	730	735
Ile	Asn	Leu	Phe	Val	Gly	Ala	Glu	Gln	Leu	Thr	Asn	Gln	Asp	Phe	Leu	740	745	750
Lys	Ala	Gly	Asp	Lys	Glu	Asn	Ile	Phe	Asn	Ala	Asp	His	Phe	Pro	Leu	755	760	765
Trp	Tyr	Arg	Arg	Ala	Ala	Glu	Gln	Ile	Ala	Gly	Ser	Phe	Val	Tyr	Ser	770	775	780
Ile	Pro	Phe	Ser	Thr	Gly	Thr	Val	Asn	Lys	Ser	Asn	Val	Val	Thr	Ala	785	790	795
Ser	Thr	Ser	Ile	Gln	Leu	Leu	Asp	Glu	Arg	Lys	Ser	Pro	Val	Val	Ala	805	810	815
Ala	Val	Gly	Ile	Gln	Met	Lys	Leu	Glu	Phe	Phe	Gln	Arg	Lys	Phe	Trp	820	825	830
Thr	Ala	Ser	Arg	Gln	Cys	Ala	Ser	Leu	Asp	Gly	Lys	Cys	Ser	Ile	Ser	835	840	845
Cys	Asp	Asp	Glu	Thr	Val	Asn	Cys	Tyr	Leu	Ile	Asp	Asn	Asn	Gly	Phe	850	855	860
Ile	Leu	Val	Ser	Glu	Asp	Tyr	Thr	Gln	Thr	Gly	Asp	Phe	Phe	Gly	Glu	865	870	875
Val	Glu	Gly	Ala	Val	Met	Asn	Lys	Leu	Leu	Thr	Met	Gly	Ser	Phe	Lys	885	890	895
Arg	Ile	Thr	Leu	Tyr	Asp	Tyr	Gln	Ala	Met	Cys	Arg	Ala	Asn	Lys	Glu	900	905	910
Ser	Ser	Asp	Ser	Ala	His	Gly	Leu	Leu	Asp	Pro	Tyr	Lys	Ala	Phe	Leu	915	920	925
Ser	Ala	Ala	Lys	Trp	Ile	Met	Thr	Glu	Leu	Val	Leu	Phe	Leu	Val	Glu	930	935	940

Phe Asn Leu Cys Ser Trp Trp His Ser Asp Met Thr Ala Lys Ala Gln
 945 950 955 960

Lys Leu Lys Gln Thr Leu Glu Pro Cys Asp Thr Glu Tyr Pro Ala Phe
 965 970 975

Val Ser Glu Arg Thr Ile Lys Glu Thr Thr Gly Asn Ile Ala Cys Glu
 980 985 990

Asp Cys Ser Lys Ser Phe Val Ile Gln Gln Ile Pro Ser Ser Asn Leu
 995 1000 1005

Phe Met Val Val Val Asp Ser Ser Cys Leu Cys Glu Ser Val Ala Pro
 1010 1015 1020

Ile Thr Met Ala Pro Ile Glu Ile Arg Tyr Asn Glu Ser Leu Lys Cys
 1025 1030 1035 1040

Glu Arg Leu Lys Ala Gln Lys Ile Arg Arg Arg Pro Glu Ser Cys His
 1045 1050 1055

Gly Phe His Pro Glu Glu Asn Ala Arg Glu Cys Gly Gly Ala Ser His
 1060 1065 1070

His His His His His
 1075

<210> 25

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: priner

<400> 25

tcgccaccat ggcggtgccg gctc

24

<210> 26

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: priner

<400> 26
tcggaattcc tcagtgatgg tgatggtgat gggccccgcg gccacagtc 49

<210> 27
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: priner

<400> 27
tcgccaccat ggccgggccc ggc 23

<210> 28
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: priner

<400> 28
tctcagtgat ggtgatggtg atgcgatgca cccccacact etc 43

<210> 29
<211> 3842
<212> DNA
<213> Sus scrofa

<400> 29
ggggattgat cttcgatcgc gaagatggct gctggctgcc tgctggcctt gactctgaca 60
cttttccaat ctttgctgat cggtcctca tcgcaggagc cgttcccgtc ggccgtcact 120
atcaagtcac gggaggataa aatgcaagaa gaccttgtca ccctggcaaa aacagcaagt 180
ggagtcaatc agcttgctga tatttatgaa aaataccaag atttgtatac tgtggaacca 240
aataatgcac gccagctggt ggaaattgca gccagggata ttgagaaact tctgagcaac 300
agatctaaag ccctgggtgcg cctagctttg gaagcagaga aggttcaagc agcccaccag 360
tgagagagagg attttgcaag caatgaagtt gtctactaca atgcaaagga tgatctcgat 420
cctgaaaaaa atgacagtga gccaggcagc cagaggataa aacctgtttt tattgatgat 480
gctaattttg ggcgacagat atcttatcag catgcagcag tccatattcc caccgacatc 540
tatgagggct caacaattgt gttaaattgaa ctgaactgga caagtgcctt agatgaagtt 600
ttcaagaaaa atcgagagga agatccctca ttattgtggc aggtgttttg cagtgccaca 660
ggcctggccc ggtattatcc agcttctcca tgggttgata acagtagaac tccaaacaag 720
attgaccttt atgatgtacg aaggagacca tggtagatcc aaggagctgc atctcctaaa 780

gatatgctta	ttctggtcga	cgtgagtgga	agtgttagtg	gtttgacgct	taaactgatac	840
cgaacatctg	tctctgaaat	gttggaacc	ctctcagatg	acgattttgt	gaatgtagct	900
tcatttaaca	gcaatgccca	ggatgtaagc	tgttttcaac	accttgtcca	agcaaatgta	960
agaaataaga	aagtgctgaa	agatgcagtt	aataatatca	cagcaaaagg	aatcacagat	1020
tacaagaagg	gcttttagttt	tgcttttgaa	caactgctta	attataacgt	ttctagagcc	1080
aactgcaata	agattatcat	gttgttcacc	gatggaggag	aagagagagc	tcaggagata	1140
tttgccaaat	acaacaaaga	caaaaaagta	cgtgtattca	catttttcagt	tggtcaacat	1200
aattatgaca	gaggacctat	tcagtggatg	gcctgtgaaa	ataaagggtta	ttattatgaa	1260
attccttcca	ttggagcaat	cagaatcaat	actcaggaat	atttggtatg	tctgggaaga	1320
ccaatggttt	tagcaggaga	caaagctaag	caagtccagt	ggacaaacgt	gtacctggat	1380
gcactggaac	tgggacttgt	cattactgga	actcttccgg	tcttcaacat	aaccggccaa	1440
aatgaaaata	agacgaactt	aaagaaccag	ctgattcttg	gtgtgatggg	agttgatgta	1500
tctttggaag	atattaaaaag	actgacacca	cgttttacac	tgtgccccaa	tggtctattac	1560
tttgcaattg	atcctaattg	ctatgtttta	ttacatccaa	atcttcagcc	aaagaacccc	1620
aaatctcagg	agccagtaac	cttggatttc	cttgatgcag	aattagagaa	tgatattaaa	1680
gtggagatcc	gaaataaaaat	gatagatgga	gaaagtggag	aaaaaacatt	cagaactctg	1740
gttaaattctc	aagatgagag	atatattgac	aaaggaaaaca	ggacatatatac	atggactcct	1800
gtcaatggca	cagattacag	tttggccttg	gtattaccaa	cctacagttt	ttactatata	1860
aaagccaaaa	tagaagagac	aataactcag	gccagatcaa	aaaagggcaa	aatgaaggat	1920
tcagaaacac	tgaagcctga	taattttgaa	gaatctggct	atacattcat	agcaccaaga	1980
gactactgca	atgaccttaa	aatatcagat	aataataaccg	aatttctttt	aaactttaat	2040
gagtttattg	atagaaaaac	tccaaacaac	ccgtcatgca	acacagattt	gattaataga	2100
gtcttgctgg	atgcgggctt	tacaaatgaa	cttgccaaa	attactggag	taagcagaaa	2160
aacatcaagg	gagtgaagc	acggtttgtt	gtaactgatg	gagggattac	cagagtttat	2220
cccaaagagg	ctggagaaaa	ttggcaagaa	aaccagaaa	catatgagga	cagcttctat	2280
aaaagaagtc	tagataacga	taactatgtt	ttcactgctc	cctactttaa	caaaagtgga	2340
cctggtgctt	atgaatcagg	catcatggta	agcaaagctg	tagaaatata	catccaagga	2400
aaacttctta	aacctgcagt	tgttggaatt	aaaattgatg	taaattcctg	gatagagaat	2460
ttcacaaaaa	catcaatcag	ggatccgtgt	gctgggccag	tttgtgattg	taaaagaaac	2520
agtgatgtaa	tggatttgtgt	gattctagat	gatgggtggg	ttcttttgat	ggcaaatcat	2580
gatgattata	ctaaccagat	tgggaagggtt	tttgagagaa	ttgacccaag	tttgatgaga	2640
cacctgggta	atatatcagt	ttatgctttt	aacaaatctt	acgattatca	gtcagtgtgt	2700
gagcctgggtg	ctgcacccaa	acaaggagca	ggacatcgct	cagcatatgt	gccatcaata	2760
gcagacatct	tacacattgg	ctgggtggg	actgcagctg	catgggtctat	tctacagcag	2820
tttctcttga	gtttgacctt	tccacgactt	cttgaagcag	ttgagatgga	agatgatgac	2880
tttaccgcct	ctctgtcaaa	gcagagttgc	attactgaac	aaaccagta	tttctttgat	2940
aatgatagca	aatccttcag	tgggggtcctg	gactgtggta	actgttccag	aatctttcac	3000
gttgaaaaac	ttatgaacac	caacttaata	ttcataatgg	ttgagagcaa	agggacttgt	3060
ccttgatgaca	cacgattgct	catacaagct	gagcagactt	ctgacgggtcc	agatccttgt	3120
gatatgggta	agcaacccag	ataccgaaaa	gggcctgatg	tctgttttga	taacaatgcc	3180
ttggaggatt	ataccgactg	tgggtggtgtt	tctggattaa	atccctccct	gtgggtccatc	3240
ttcggaatcc	agtgtgtttt	actttggctt	ttatctggca	gcagacacta	ccagttatga	3300
cccttctaaa	accaaactctg	catattaaac	ttcagaccct	gccagaatag	gagccctcaa	3360
ttgcattaaa	atagggtaaa	ctgcagaatc	agcagaactc	tagctggggc	catcccatgg	3420
catcaatctc	agactcataa	ggcacccact	ggctgcatgt	caggggtgtca	gatcctgaaa	3480
cttggtgtgaa	tgctgcatca	tctatgtata	acatcagagc	aaaattctat	acctattcta	3540
ttggaaaatt	tgagaatttg	ttgttgcat	gttggtgatt	acatgtaaaa	gggctcccca	3600
cacagttgtg	tatgaatcac	gcaaattgtc	ttgattttga	cttgctgcaa	tccttgctct	3660

tttaccaaga	aaatctctag	agggaaaaaa	aaagtctttt	ttttccttca	ctaattctgc	3720
tacaaattat	ttcctgcttg	gagtagttat	tattaaaaaa	tatatatata	gagagagaga	3780
gagagaatta	acattggtgt	aatctgtcaa	aatagaaata	atgggttatt	ttctacaaaa	3840
aa						3842

<210> 30

<211> 3057

<212> DNA

<213> Sus scrofa

<400> 30

atggtgctg	gctgctgct	ggccttgact	ctgacacttt	tccaatcttt	gctgatcgg	60
ccctcatgc	aggagccgt	cccgtcggcc	gtcactatca	agtcatggg	ggataaaat	120
caagaagacc	ttgtcaccc	ggcaaaaaca	gcaagtggag	tcaatcagct	tgctgatatt	180
tatgaaaaat	accaagattt	gtatactgtg	gaaccaaata	atgcacgcca	gctggtggaa	240
attgcagcca	gggatattga	gaaacttctg	agcaacagat	ctaaagccct	ggtgcgccta	300
gctttggaag	cagagaagg	tcaagcagcc	caccagtgg	gagaggattt	tgcaagcaat	360
gaagttgtct	actacaatgc	aaaggatgat	ctcgatcctg	aaaaaaatga	cagtgcagcca	420
ggcagccaga	ggataaaaacc	tgttttttatt	gatgatgcta	atgttggtgg	acagatatct	480
tatcagcatg	cagcagtcga	tattcccacc	gacatctatg	agggctcaac	aatttgtgta	540
aatgaactga	actggacaag	tgcttagat	gaagttttca	agaaaaatcg	agaggaagat	600
ccctcattat	tgtggcagg	gtttggcagt	gccacaggcc	tggcccggt	ttatccagct	660
tctccatggg	ttgataacag	tagaactcca	aacaagattg	acctttatga	tgtacgaagg	720
agaccatgg	acatccaagg	agctgcatct	cctaaagata	tgcttattct	ggtcgacgtg	780
agtggaaagt	ttagtgggtt	gacgcttaaa	ctgatccgaa	catctgtctc	tgaaatgttg	840
gaaaccctct	cagatgacga	ttttgtgaat	gtagcttcat	ttaacagcaa	tgcccaggat	900
gtaagctgtt	ttcaacacct	tgtccaagca	aatgtaagaa	ataagaaagt	gctgaaagat	960
gcagttaata	atatcacagc	aaaaggaatc	acagattaca	agaagggtct	tagttttgct	1020
tttgaacaac	tgcttaatta	taacgtttct	agagccaact	gcaataagat	tatcatgttg	1080
ttcaccgatg	gaggagaaga	gagagctcag	gagatatttg	ccaaatacaa	caaagacaaa	1140
aaagtacgtg	tattcacatt	ttcagttggt	caacataatt	atgacagagg	acctattcag	1200
tggatggcct	gtgaaaataa	aggttattat	tatgaaattc	cttccattgg	agcaatcaga	1260
atcaatactc	aggaatat	ggatgttctg	ggaagaccaa	tggtttttag	aggagacaaa	1320
gctaagcaag	tccagtggac	aaacgtgtac	ctggatgcac	tggaaactgg	acttgtcatt	1380
actggaactc	ttccggtctt	caacataacc	ggccaaaatg	aaaataagac	gaacttaaag	1440
aaccagctga	ttcttggtgt	gatgggagtt	gatgtatctt	tgggaagatat	taaaagactg	1500
acaccacgtt	ttacactgtg	ccccaatggc	tattactttg	caattgatcc	taatggctat	1560
gtttttattac	atccaaatct	tcagccaaag	aaccccaaat	ctcaggagcc	agtaaccttg	1620
gatttccttg	atgcagaatt	agagaatgat	attaaagtgg	agatccgaaa	taaaatgata	1680
gatggagaaa	gtggagaaaa	aacattcaga	actctggtta	aatctcaaga	tgagagatat	1740
attgacaaag	gaaacaggac	atatacatgg	actcctgtca	atggcacaga	ttacagtttg	1800
gccttggtat	taccaaccta	cagttttttac	tatataaaag	ccaaaataga	agagacaata	1860
actcaggcca	gatcaaaaaa	gggcaaaatg	aaggattcag	aaacactgaa	gcctgataat	1920
tttgaagaat	ctggctatac	attcatagca	ccaagagact	actgcaatga	ccttaaaaata	1980
tcagataata	ataccgaatt	tcttttaaac	tttaatgagt	ttattgatag	aaaaactcca	2040
aacaaccggt	catgcaacac	agatttgatt	aatagagtct	tgctggatgc	gggctttaca	2100
aatgaacttg	tccaaaatta	ctggagtaag	cagaaaaaca	tcaagggagt	gaaagcacgg	2160

tttgttgtaa	ctgatggagg	gattaccaga	gtttatccca	aagaggctgg	agaaaattgg	2220
caagaaaacc	cagaaacata	tgaggacagc	ttctataaaa	gaagtctaga	taacgataac	2280
tatgttttca	ctgctcccta	ctttaacaaa	agtggacctg	gtgcttatga	atcaggcatc	2340
atggtaagca	aagctgtaga	aatatacatc	caaggaaaac	ttcttaaacc	tgcagttggt	2400
ggaattaaaa	ttgatgtaaa	ttcctggata	gagaatttca	ccaaaacatc	aatcagggat	2460
ccgtgtgctg	gtccagtttg	tgattgtaaa	agaaacagtg	atgtaatgga	ttgtgtgatt	2520
ctagatgatg	gtgggtttct	tttgatggca	aatcatgatg	attatactaa	ccagattgga	2580
aggttttttg	gagagattga	cccaagtttg	atgagacacc	tggttaatat	atcagtttat	2640
gcttttaaca	aatcttacga	ttatcagtca	gtgtgtgagc	ctgggtgctgc	accaaaca	2700
ggagcaggac	atcgctcagc	atatgtgcc	tcaatagcag	acatcttaca	cattggctgg	2760
tgggccactg	cagctgcatg	gtctattcta	cagcagtttc	tcttgagttt	gacctttcca	2820
cgacttcttg	aagcagttga	gatggaagat	gatgacttta	ccgcctctct	gtcaaagcag	2880
agttgcatta	ctgaacaaac	ccagtatttc	tttgataatg	atagcaaadc	cttcagtggtg	2940
gtcttggaact	gtggtaactg	ttccagaatc	tttcacgttg	aaaaacttat	gaacaccaac	3000
ttaatattca	taatgggtga	gagcaaaggg	acttgtcctt	gtgacacacg	attgtga	3057

<210> 31

<211> 3111

<212> DNA

<213> Sus scrofa

<400> 31

atggctgctg	gctgcctgct	ggccttgact	ctgacacttt	tccaatcttt	gctgatcggg	60
ccctcatcgc	aggagccgtt	cccgtcggcc	gtcactatca	agtcatgggt	ggataaaatg	120
caagaagacc	ttgtcaccct	ggcaaaaaca	gcaagtggag	tcaatcagct	tgtcgatatt	180
tatgaaaaat	accaagattt	gtatactgtg	gaaccaata	atgcacgcca	gctgggtggaa	240
attgcagcca	gggatattga	gaaacttctg	agcaacagat	ctaaagccct	ggtgcgccta	300
gctttggaag	cagagaaggt	tcaagcagcc	caccagtggg	gagaggattt	tgcaagcaat	360
gaagttgtct	actacaatgc	aaaggatgat	ctcgatcctg	aaaaaaatga	cagtgcagcca	420
ggcagccaga	ggataaaaacc	tgttttttatt	gatgatgcta	attttgggcg	acagatatct	480
tatcagcatg	cagcagtcga	tattcccacc	gacatctatg	agggctcaac	aattgtgtta	540
aatgaactga	actggacaag	tgcttagat	gaagttttca	agaaaaatcg	agaggaagat	600
ccctcattat	tgtggcaggt	gtttggcag	gccacaggcc	tggcccggta	ttatccagct	660
tctccatggg	ttgataacag	tagaactcca	aacaagattg	acctttatga	tgtacgaagg	720
agaccatggg	acatccaagg	agctgcatct	cctaaagata	tgcttattct	ggtcgacgtg	780
agtggaagtg	ttagtgggtt	gacgcttaaa	ctgatccgaa	catctgtctc	tgaaatgttg	840
gaaaccctct	cagatgacga	ttttgtgaat	gtagcttcat	ttaacagcaa	tgcccaggat	900
gtaagctgtt	ttcaacacct	tgtccaagca	aatgtaagaa	ataagaaagt	gctgaaagat	960
gcagttaata	atatcacagc	aaaaggaatc	acagattaca	agaagggtt	tagttttgct	1020
tttgaacaac	tgcttaatta	taacgtttct	agagccaact	gcaataagat	tatcatgttg	1080
ttcaccgatg	gaggagaaga	gagagctcag	gagatatttg	ccaaatacaa	caaagacaaa	1140
aaagtacgtg	tattcacatt	ttcagttggg	caacataatt	atgacagagg	acatttcag	1200
tggatggcct	gtgaaaataa	aggttattat	tatgaaattc	cttccattgg	agcaatcaga	1260
atcaatactc	aggaatat	ggatgttctg	ggaagaccaa	tggtttttagc	aggagacaaa	1320
gctaagcaag	tccagtggac	aaacgtgtac	ctggatgcac	tggaaactggg	acttgtcatt	1380
actggaactc	ttccgggtctt	caacataacc	ggccaaaatg	aaaataagac	gaacttaag	1440
aaccagctga	ttcttggtgt	gatgggagtt	gatgtatctt	tggaaagatat	taaaagactg	1500

acaccacggt	ttacactgtg	ccccaatggc	tattactttg	caattgatcc	taatggctat	1560
gttttattac	atccaaatct	tcagccaaag	aaccccaa	ctcaggagcc	agtaaccttg	1620
gatttccttg	atgcagaatt	agagaatgat	attaaagtgg	agatccgaaa	taaaatgata	1680
gatggagaaa	gtggagaaaa	aacattcaga	actctgggta	aatctcaaga	tgagagatat	1740
attgacaaag	gaaacaggac	atatacatgg	actcctgtca	atggcacaga	ttacagtttg	1800
gccttggtat	taccaaccta	cagttttttac	tatataaaag	ccaaaataga	agagacaata	1860
actcaggcca	gatcaaaaaa	gggcaaaatg	aaggattcag	aaacactgaa	gcctgataat	1920
tttgaagaat	ctggctatac	attcatagca	ccaagagact	actgcaatga	ccttaaaata	1980
tcagataata	ataccgaatt	tcttttaaac	tttaatgagt	ttattgatag	aaaaactcca	2040
aacaacccgt	catgcaacac	agatttgatt	aatagagtct	tgctggatgc	gggctttaca	2100
aatgaacttg	tccaaaatta	ctggagtaag	cagaaaaaca	tcaagggagt	gaaagcacgg	2160
tttggtgtaa	ctgatggagg	gattaccaga	gtttatccca	aagaggctgg	agaaaattgg	2220
caagaaaacc	cagaaacata	tgaggacagc	ttctataaaa	gaagtctaga	taacgataac	2280
tatgttttca	ctgctcccta	ctttaacaaa	agtggacctg	gtgcttatga	atcaggcatc	2340
atggtaaagca	aagctgtaga	aatatacatc	caaggaaaac	ttcttaaacc	tgcaagttgtt	2400
ggaattaaaa	ttgatgtaaa	ttcctggata	gagaatttca	ccaaaacatc	aatcagggat	2460
ccgtgtgctg	gtccagtttg	tgattgtaaa	agaaacagtg	atgtaatgga	ttgtgtgatt	2520
ctagatgatg	gtgggtttct	tttgatggca	aatcatgatg	attatactaa	ccagattgga	2580
aggttttttg	gagagattga	cccaagtttg	atgagacacc	tggttaatat	atcagtttat	2640
gcttttaaca	aatcttacga	ttatcagtca	gtgtgtgagc	ctgggtgctgc	acaaaaacaa	2700
ggagcaggac	atcgctcagc	atatgtgcc	tcaatagcag	acatcttaca	cattggctgg	2760
tgggccactg	cagctgcatg	gtctattcta	cagcagtttc	tcttgagttt	gacctttcca	2820
cgacttcttg	aagcagttga	gatggaagat	gatgacttta	ccgcctctct	gtcaaagcag	2880
agttgcatta	ctgaacaaac	ccagtatttc	tttgataatg	atagcaaate	cttcagtgagg	2940
gtcttggaact	gtggtaactg	ttccagaatc	tttcacgttg	aaaaacttat	gaacaccaac	3000
ttaatattca	taatggttga	gagcaaaggg	acttgctcct	gtgacacacg	attgctcata	3060
caagctgagc	agacttctga	cgggtccagat	ccttggtgata	tggttaagtg	a	3111

<210> 32

<211> 3192

<212> DNA

<213> Sus scrofa

<400> 32

atggctgctg	gctgcctgct	ggccttgact	ctgacacttt	tccaatcttt	gctgatcggt	60
ccctcatcgc	aggagccgtt	cccgtcggcc	gtcactatca	agtcatgggt	ggataaaatg	120
caagaagacc	ttgtcaccct	ggcaaaaaa	gcaagtggag	tcaatcagct	tgtcgatatt	180
tatgaaaaat	accaagattt	gtatactgtg	gaaccaaata	atgcacgcca	gctgggtgga	240
attgcagcca	gggatattga	gaaacttctg	agcaacagat	ctaaagccct	ggtgctgcta	300
gctttggaag	cagagaaggt	tcaagcagcc	caccagtggg	gagaggattt	tgcaagcaat	360
gaagttgtct	actacaatgc	aaaggatgat	ctcgatcctg	aaaaaaatga	cagtgcagcca	420
ggcagccaga	ggataaaacc	tgttttttat	gatgatgcta	atgttgggcg	acagatatct	480
tatcagcatg	cagcagtcga	tattcccacc	gacatctatg	agggtccaac	aattgtgtta	540
aatgaactga	actggacaag	tgcccttagat	gaagttttca	agaaaaatcg	agaggaagat	600
ccctcattat	tgtggcaggt	gtttggcagt	gccacaggcc	tggcccggtg	ttatccagct	660
tctccatggg	ttgataacag	tagaactcca	aacaagattg	acctttatga	tgtacgaagg	720
agaccatggg	acatccaagg	agctgcatct	cctaaagata	tgcttattct	ggtcgacgtg	780

```

agtggaagtg ttagtggttt gacgcttaaa ctgatccgaa catctgtctc tgaaatgttg 840
gaaacctctc cagatgacga ttttgtgaat gtagcttcat ttaacagcaa tgcccaggat 900
gtaagctgtt ttcaacacct tgtccaagca aatgtaagaa ataagaaagt gctgaaagat 960
gcagttaata atatcacagc aaaaggaatc acagattaca agaagggctt tagttttgct 1020
tttgaacaac tgcttaatta taacgtttct agagccaact gcaataagat tatcatgttg 1080
ttcacccgatg gaggagaaga gagagctcag gagatatttg ccaaatacaa caaagacaaa 1140
aaagtacgtg tattcacatt ttcagttggt caacataatt atgacagagg acctattcag 1200
tggtatggcct gtgaaaataa aggttattat tatgaaattc cttccattgg agcaatcaga 1260
atcaatactc aggaatattt ggatgttctg ggaagaccaa tggtttttagc aggagacaaa 1320
gctaagcaag tccagtggac aaacgtgtac ctggatgcac tggaactggg acttgtcatt 1380
actggaactc ttccggtcct caacataacc ggccaaaatg aaaataagac gaacttaag 1440
aaccagctga ttcttggtgt gatgggagtt gatgtatctt tggaagatat taaaagactg 1500
acaccacgtt ttacactgtg cccaatggc tattactttg caattgatcc taatggctat 1560
gttttattac atccaaatct tcagccaaag aaccccaaat ctcaggagcc agtaaccttg 1620
gatttccttg atgcagaatt agagaatgat attaaagtgg agatccgaaa taaaatgata 1680
gatggagaaa gtggagaaaa aacattcaga actctggtta aatctcaaga tgagagatat 1740
attgacaaaag gaaacaggac atatacatgg actcctgtca atggcacaga ttacagtttg 1800
gccttggtat taccaaccta cagttttttac tatataaaag ccaaaataga agagacaata 1860
actcaggcca gatcaaaaaa gggcaaaatg aaggattcag aaacactgaa gcctgataat 1920
tttgaagaat ctggctatac attcatagca ccaagagact actgcaatga ccttaaaata 1980
tcagataata ataccgaatt tcttttaaac tttaatgagt ttattgatag aaaaactcca 2040
aacaaccctg catgcaacac agatttgatt aatagagtct tgctggatgc gggctttaca 2100
aatgaacttg tccaaaatta ctggagtaag cagaaaaaca tcaagggagt gaaagcacgg 2160
tttggtgtaa ctgatggagg gattaccaga gtttatccca aagaggctgg agaaaattgg 2220
caagaaaacc cagaaacata tgaggacagc ttctataaaa gaagtctaga taacgataac 2280
tatgttttca ctgctcccta cttaacaaa agtggacctg gtgcttatga atcaggcatc 2340
atggtaagca aagctgtaga aatatacatc caaggaaaac ttcttaaac tgcatgtgtt 2400
ggaattaaaa ttgatgtaaa ttcttgata gagaatttca ccaaaacatc aatcagggat 2460
ccgtgtgctg gtccagtttg tgattgtaaa agaaacagtg atgtaatgga ttgtgtgatt 2520
ctagatgatg gtgggtttct tttgatggca aatcatgatg attatactaa ccagattgga 2580
aggttttttg gagagattga cccaagtttg atgagacacc tggttaatat atcagtttat 2640
gcttttaaca aatcttacga ttatcagtca gtgtgtgagc ctggtgctgc accaaaacaa 2700
ggagcaggac atcgtcagc atatgtgcca tcaatagcag acatcttaca cattggctgg 2760
tgggccactg cagctgcatg gtctattcta cagcagtttc tcttgagttt gacctttcca 2820
cgacttcttg aagcagttga gatggaagat gatgacttta ccgcctctct gtcaaagcag 2880
agttgcatta ctgaacaaac ccagtatttc tttgataatg atagcaaadc cttcagtggg 2940
gtcttggaact gtggtaactg ttccagaatc tttcacgttg aaaaacttat gaacaccaac 3000
ttaatattca taatggttga gagcaaaggg acttgtcctt gtgacacacg attgctcata 3060
caagctgagc agacttctga cgggccagat ccttgtgata tggttaagca acccagatac 3120
cgaaaagggc ctgatgtctg ttttgataac aatgccttgg aggattatac cgactgtggg 3180
ggtgtttctt ga 3192

```

<210> 33

<211> 1091

<212> PRT

<213> Sus scrofa

<400> 33

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
 260 265 270
 Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
 275 280 285
 Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
 290 295 300
 Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
 305 310 315 320
 Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
 325 330 335
 Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
 340 345 350
 Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
 355 360 365
 Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
 370 375 380
 Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln
 385 390 395 400
 Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
 405 410 415
 Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
 420 425 430
 Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
 435 440 445
 Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
 450 455 460
 Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys
 465 470 475 480
 Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
 485 490 495
 Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
 500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
515 520 525
Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
530 535 540
Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
545 550 555 560
Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln
565 570 575
Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro
580 585 590
Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser
595 600 605
Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg
610 615 620
Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn
625 630 635 640
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn
645 650 655
Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn
660 665 670
Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp
675 680 685
Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val
690 695 700
Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg
705 710 715 720
Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala
725 730 735
Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr
740 745 750
Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe
755 760 765

Asn	Lys	Ser	Gly	Pro	Gly	Ala	Tyr	Glu	Ser	Gly	Ile	Met	Val	Ser	Lys	770	775	780	
Ala	Val	Glu	Ile	Tyr	Ile	Gln	Gly	Lys	Leu	Leu	Lys	Pro	Ala	Val	Val	785	790	795	800
Gly	Ile	Lys	Ile	Asp	Val	Asn	Ser	Trp	Ile	Glu	Asn	Phe	Thr	Lys	Thr	805	810	815	
Ser	Ile	Arg	Asp	Pro	Cys	Ala	Gly	Pro	Val	Cys	Asp	Cys	Lys	Arg	Asn	820	825	830	
Ser	Asp	Val	Met	Asp	Cys	Val	Ile	Leu	Asp	Asp	Gly	Gly	Phe	Leu	Leu	835	840	845	
Met	Ala	Asn	His	Asp	Asp	Tyr	Thr	Asn	Gln	Ile	Gly	Arg	Phe	Phe	Gly	850	855	860	
Glu	Ile	Asp	Pro	Ser	Leu	Met	Arg	His	Leu	Val	Asn	Ile	Ser	Val	Tyr	865	870	875	880
Ala	Phe	Asn	Lys	Ser	Tyr	Asp	Tyr	Gln	Ser	Val	Cys	Glu	Pro	Gly	Ala	885	890	895	
Ala	Pro	Lys	Gln	Gly	Ala	Gly	His	Arg	Ser	Ala	Tyr	Val	Pro	Ser	Ile	900	905	910	
Ala	Asp	Ile	Leu	His	Ile	Gly	Trp	Trp	Ala	Thr	Ala	Ala	Ala	Trp	Ser	915	920	925	
Ile	Leu	Gln	Gln	Phe	Leu	Leu	Ser	Leu	Thr	Phe	Pro	Arg	Leu	Leu	Glu	930	935	940	
Ala	Val	Glu	Met	Glu	Asp	Asp	Asp	Phe	Thr	Ala	Ser	Leu	Ser	Lys	Gln	945	950	955	960
Ser	Cys	Ile	Thr	Glu	Gln	Thr	Gln	Tyr	Phe	Phe	Asp	Asn	Asp	Ser	Lys	965	970	975	
Ser	Phe	Ser	Gly	Val	Leu	Asp	Cys	Gly	Asn	Cys	Ser	Arg	Ile	Phe	His	980	985	990	
Val	Glu	Lys	Leu	Met	Asn	Thr	Asn	Leu	Ile	Phe	Ile	Met	Val	Glu	Ser	995	1000	1005	
Lys	Gly	Thr	Cys	Pro	Cys	Asp	Thr	Arg	Leu	Leu	Ile	Gln	Ala	Glu	Gln	1010	1015	1020	

Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys Gln Pro Arg Tyr
 1025 1030 1035 1040

Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Ala Leu Glu Asp Tyr
 1045 1050 1055

Thr Asp Cys Gly Gly Val Ser Gly Leu Asn Pro Ser Leu Trp Ser Ile
 1060 1065 1070

Phe Gly Ile Gln Cys Val Leu Leu Trp Leu Leu Ser Gly Ser Arg His
 1075 1080 1085

Tyr Gln Leu
 1090

<210> 34

<211> 1018

<212> PRT

<213> Sus scrofa

<400> 34

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
 1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
 20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
 35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
 50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
 65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
 85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
 100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
 115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg

130		135		140	
Ile Lys Pro Val Phe	Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser				
145	150	155	160		
Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser					
	165	170	175		
Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val					
	180	185	190		
Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe					
	195	200	205		
Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val					
	210	215	220		
Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg					
	225	230	235	240	
Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile					
	245	250	255		
Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile					
	260	265	270		
Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe					
	275	280	285		
Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe					
	290	295	300		
Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp					
	305	310	315	320	
Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly					
	325	330	335		
Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala					
	340	345	350		
Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg					
	355	360	365		
Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val					
	370	375	380		
Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln					

385		390		395		400
Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile						
	405		410		415	
Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg						
	420		425		430	
Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn						
	435		440		445	
Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu						
	450		455		460	
Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys						
	465		470		475	480
Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp						
	485		490		495	
Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr						
	500		505		510	
Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln						
	515		520		525	
Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp						
	530		535		540	
Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile						
	545		550		555	560
Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln						
	565		570		575	
Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro						
	580		585		590	
Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser						
	595		600		605	
Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg						
	610		615		620	
Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn						
	625		630		635	640
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn						

645					650					655						
Asp	Leu	Lys	Ile	Ser	Asp	Asn	Asn	Thr	Glu	Phe	Leu	Leu	Asn	Phe	Asn	
660					665					670						
Glu	Phe	Ile	Asp	Arg	Lys	Thr	Pro	Asn	Asn	Pro	Ser	Cys	Asn	Thr	Asp	
675					680					685						
Leu	Ile	Asn	Arg	Val	Leu	Leu	Asp	Ala	Gly	Phe	Thr	Asn	Glu	Leu	Val	
690					695					700						
Gln	Asn	Tyr	Trp	Ser	Lys	Gln	Lys	Asn	Ile	Lys	Gly	Val	Lys	Ala	Arg	
705					710					715					720	
Phe	Val	Val	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Tyr	Pro	Lys	Glu	Ala	
725					730					735						
Gly	Glu	Asn	Trp	Gln	Glu	Asn	Pro	Glu	Thr	Tyr	Glu	Asp	Ser	Phe	Tyr	
740					745					750						
Lys	Arg	Ser	Leu	Asp	Asn	Asp	Asn	Tyr	Val	Phe	Thr	Ala	Pro	Tyr	Phe	
755					760					765						
Asn	Lys	Ser	Gly	Pro	Gly	Ala	Tyr	Glu	Ser	Gly	Ile	Met	Val	Ser	Lys	
770					775					780						
Ala	Val	Glu	Ile	Tyr	Ile	Gln	Gly	Lys	Leu	Leu	Lys	Pro	Ala	Val	Val	
785					790					795					800	
Gly	Ile	Lys	Ile	Asp	Val	Asn	Ser	Trp	Ile	Glu	Asn	Phe	Thr	Lys	Thr	
805					810					815						
Ser	Ile	Arg	Asp	Pro	Cys	Ala	Gly	Pro	Val	Cys	Asp	Cys	Lys	Arg	Asn	
820					825					830						
Ser	Asp	Val	Met	Asp	Cys	Val	Ile	Leu	Asp	Asp	Gly	Gly	Phe	Leu	Leu	
835					840					845						
Met	Ala	Asn	His	Asp	Asp	Tyr	Thr	Asn	Gln	Ile	Gly	Arg	Phe	Phe	Gly	
850					855					860						
Glu	Ile	Asp	Pro	Ser	Leu	Met	Arg	His	Leu	Val	Asn	Ile	Ser	Val	Tyr	
865					870					875					880	
Ala	Phe	Asn	Lys	Ser	Tyr	Asp	Tyr	Gln	Ser	Val	Cys	Glu	Pro	Gly	Ala	
885					890					895						
Ala	Pro	Lys	Gln	Gly	Ala	Gly	His	Arg	Ser	Ala	Tyr	Val	Pro	Ser	Ile	

900	905	910
Ala Asp Ile Leu His Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser		
915	920	925
Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu		
930	935	940
Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln		
945	950	955 960
Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys		
	965 970	975
Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His		
	980 985	990
Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser		
	995 1000	1005
Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu		
1010	1015	

<210> 35
 <211> 1036
 <212> PRT
 <213> Sus scrofa

<400> 35
 Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
 1 5 10 15
 Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
 20 25 30
 Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
 35 40 45
 Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
 50 55 60
 Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
 65 70 75 80
 Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
 85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
 100 105 110
 Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
 115 120 125
 Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
 130 135 140
 Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
 145 150 155 160
 Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
 165 170 175
 Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
 180 185 190
 Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
 195 200 205
 Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
 210 215 220
 Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
 225 230 235 240
 Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
 245 250 255
 Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
 260 265 270
 Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
 275 280 285
 Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
 290 295 300
 Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
 305 310 315 320
 Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
 325 330 335
 Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
 340 345 350

Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg	355	360	365
Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val	370	375	380
Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln	385	390	395 400
Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile	405	410	415
Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg	420	425	430
Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn	435	440	445
Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu	450	455	460
Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys	465	470	475 480
Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp	485	490	495
Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr	500	505	510
Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln	515	520	525
Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp	530	535	540
Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile	545	550	555 560
Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln	565	570	575
Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro	580	585	590
Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser	595	600	605

Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg		
610	615	620
Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn		
625	630	635 640
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn		
	645	650 655
Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn		
	660	665 670
Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp		
	675	680 685
Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val		
	690	695 700
Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg		
705	710	715 720
Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala		
	725	730 735
Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr		
	740	745 750
Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe		
	755	760 765
Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys		
	770	775 780
Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val		
785	790	795 800
Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr		
	805	810 815
Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn		
	820	825 830
Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu		
	835	840 845
Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly		
850	855	860

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
 865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
 885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile
 900 905 910

Ala Asp Ile Leu His Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
 915 920 925

Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
 930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
 945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
 965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
 980 985 990

Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
 995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
 1010 1015 1020

Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys
 1025 1030 1035

<210> 36
 <211> 1063
 <212> PRT
 <213> Sus scrofa

<400> 36
 Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
 1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
 20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
 35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
 50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
 65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
 85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
 100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
 115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
 130 135 140

Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
 145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
 165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
 180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
 195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
 210 215 220

Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
 225 230 235 240

Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
 245 250 255

Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
 260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
 275 280 285

Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
 290 295 300

Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
 305 310 315 320
 Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
 325 330 335
 Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
 340 345 350
 Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
 355 360 365
 Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
 370 375 380
 Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln
 385 390 395 400
 Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
 405 410 415
 Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
 420 425 430
 Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
 435 440 445
 Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
 450 455 460
 Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys
 465 470 475 480
 Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
 485 490 495
 Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
 500 505 510
 Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
 515 520 525
 Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
 530 535 540
 Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
 545 550 555 560

Asp	Gly	Glu	Ser	Gly	Glu	Lys	Thr	Phe	Arg	Thr	Leu	Val	Lys	Ser	Gln	565	570	575	
Asp	Glu	Arg	Tyr	Ile	Asp	Lys	Gly	Asn	Arg	Thr	Tyr	Thr	Trp	Thr	Pro	580	585	590	
Val	Asn	Gly	Thr	Asp	Tyr	Ser	Leu	Ala	Leu	Val	Leu	Pro	Thr	Tyr	Ser	595	600	605	
Phe	Tyr	Tyr	Ile	Lys	Ala	Lys	Ile	Glu	Glu	Thr	Ile	Thr	Gln	Ala	Arg	610	615	620	
Ser	Lys	Lys	Gly	Lys	Met	Lys	Asp	Ser	Glu	Thr	Leu	Lys	Pro	Asp	Asn	625	630	635	640
Phe	Glu	Glu	Ser	Gly	Tyr	Thr	Phe	Ile	Ala	Pro	Arg	Asp	Tyr	Cys	Asn	645	650	655	
Asp	Leu	Lys	Ile	Ser	Asp	Asn	Asn	Thr	Glu	Phe	Leu	Leu	Asn	Phe	Asn	660	665	670	
Glu	Phe	Ile	Asp	Arg	Lys	Thr	Pro	Asn	Asn	Pro	Ser	Cys	Asn	Thr	Asp	675	680	685	
Leu	Ile	Asn	Arg	Val	Leu	Leu	Asp	Ala	Gly	Phe	Thr	Asn	Glu	Leu	Val	690	695	700	
Gln	Asn	Tyr	Trp	Ser	Lys	Gln	Lys	Asn	Ile	Lys	Gly	Val	Lys	Ala	Arg	705	710	715	720
Phe	Val	Val	Thr	Asp	Gly	Gly	Ile	Thr	Arg	Val	Tyr	Pro	Lys	Glu	Ala	725	730	735	
Gly	Glu	Asn	Trp	Gln	Glu	Asn	Pro	Glu	Thr	Tyr	Glu	Asp	Ser	Phe	Tyr	740	745	750	
Lys	Arg	Ser	Leu	Asp	Asn	Asp	Asn	Tyr	Val	Phe	Thr	Ala	Pro	Tyr	Phe	755	760	765	
Asn	Lys	Ser	Gly	Pro	Gly	Ala	Tyr	Glu	Ser	Gly	Ile	Met	Val	Ser	Lys	770	775	780	
Ala	Val	Glu	Ile	Tyr	Ile	Gln	Gly	Lys	Leu	Leu	Lys	Pro	Ala	Val	Val	785	790	795	800
Gly	Ile	Lys	Ile	Asp	Val	Asn	Ser	Trp	Ile	Glu	Asn	Phe	Thr	Lys	Thr	805	810	815	

Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn
 820 825 830

Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu
 835 840 845

Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly
 850 855 860

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
 865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
 885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Ile
 900 905 910

Ala Asp Ile Leu His Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
 915 920 925

Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
 930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
 945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
 965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
 980 985 990

Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
 995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
 1010 1015 1020

Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys Gln Pro Arg Tyr
 1025 1030 1035 1040

Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Ala Leu Glu Asp Tyr
 1045 1050 1055

Thr Asp Cys Gly Gly Val Ser
 1060

<210> 37

<211> 1069

<212> PRT

<213> Sus scrofa

<400> 37

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Gln Glu Pro Phe Pro Ser Ala Val Thr
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Arg Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Asp Asp Ala Asn Phe Gly Arg Gln Ile Ser
145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
195 200 205

Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val

210		215		220	
Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg					
225		230		235	240
Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile					
	245		250		255
Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile					
	260		265		270
Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe					
	275		280		285
Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe					
	290		295		300
Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp					
305		310		315	320
Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly					
	325		330		335
Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala					
	340		345		350
Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg					
	355		360		365
Ala Gln Glu Ile Phe Ala Lys Tyr Asn Lys Asp Lys Lys Val Arg Val					
	370		375		380
Phe Thr Phe Ser Val Gly Gln His Asn Tyr Asp Arg Gly Pro Ile Gln					
385		390		395	400
Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile					
	405		410		415
Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg					
	420		425		430
Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn					
	435		440		445
Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu					
	450		455		460
Pro Val Phe Asn Ile Thr Gly Gln Asn Glu Asn Lys Thr Asn Leu Lys					

465		470		475		480
Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp						
	485		490		495	
Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr						
	500		505		510	
Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln						
	515		520		525	
Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp						
	530		535		540	
Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile						
545		550		555		560
Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln						
	565		570		575	
Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro						
	580		585		590	
Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser						
	595		600		605	
Phe Tyr Tyr Ile Lys Ala Lys Ile Glu Glu Thr Ile Thr Gln Ala Arg						
610		615		620		
Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn						
625		630		635		640
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn						
	645		650		655	
Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn						
	660		665		670	
Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Thr Asp						
	675		680		685	
Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val						
	690		695		700	
Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg						
705		710		715		720
Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala						

725					730					735						
Gly	Glu	Asn	Trp	Gln	Glu	Asn	Pro	Glu	Thr	Tyr	Glu	Asp	Ser	Phe	Tyr	
740					745					750						
Lys	Arg	Ser	Leu	Asp	Asn	Asp	Asn	Tyr	Val	Phe	Thr	Ala	Pro	Tyr	Phe	
755					760					765						
Asn	Lys	Ser	Gly	Pro	Gly	Ala	Tyr	Glu	Ser	Gly	Ile	Met	Val	Ser	Lys	
770					775					780						
Ala	Val	Glu	Ile	Tyr	Ile	Gln	Gly	Lys	Leu	Leu	Lys	Pro	Ala	Val	Val	
785					790					795					800	
Gly	Ile	Lys	Ile	Asp	Val	Asn	Ser	Trp	Ile	Glu	Asn	Phe	Thr	Lys	Thr	
805					810					815						
Ser	Ile	Arg	Asp	Pro	Cys	Ala	Gly	Pro	Val	Cys	Asp	Cys	Lys	Arg	Asn	
820					825					830						
Ser	Asp	Val	Met	Asp	Cys	Val	Ile	Leu	Asp	Asp	Gly	Gly	Phe	Leu	Leu	
835					840					845						
Met	Ala	Asn	His	Asp	Asp	Tyr	Thr	Asn	Gln	Ile	Gly	Arg	Phe	Phe	Gly	
850					855					860						
Glu	Ile	Asp	Pro	Ser	Leu	Met	Arg	His	Leu	Val	Asn	Ile	Ser	Val	Tyr	
865					870					875					880	
Ala	Phe	Asn	Lys	Ser	Tyr	Asp	Tyr	Gln	Ser	Val	Cys	Glu	Pro	Gly	Ala	
885					890					895						
Ala	Pro	Lys	Gln	Gly	Ala	Gly	His	Arg	Ser	Ala	Tyr	Val	Pro	Ser	Ile	
900					905					910						
Ala	Asp	Ile	Leu	His	Ile	Gly	Trp	Trp	Ala	Thr	Ala	Ala	Ala	Trp	Ser	
915					920					925						
Ile	Leu	Gln	Gln	Phe	Leu	Leu	Ser	Leu	Thr	Phe	Pro	Arg	Leu	Leu	Glu	
930					935					940						
Ala	Val	Glu	Met	Glu	Asp	Asp	Asp	Phe	Thr	Ala	Ser	Leu	Ser	Lys	Gln	
945					950					955					960	
Ser	Cys	Ile	Thr	Glu	Gln	Thr	Gln	Tyr	Phe	Phe	Asp	Asn	Asp	Ser	Lys	
965					970					975						
Ser	Phe	Ser	Gly	Val	Leu	Asp	Cys	Gly	Asn	Cys	Ser	Arg	Ile	Phe	His	

980	985	990
Val Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser		
995	1000	1005
Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln		
1010	1015	1020
Thr Ser Asp Gly Pro Asp Pro Cys Asp Met Val Lys Gln Pro Arg Tyr		
1025	1030	1035
		1040
Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Ala Leu Glu Asp Tyr		
1045	1050	1055
Thr Asp Cys Gly Gly Val Ser His His His His His His		
1060	1065	

<210> 38

<211> 3055

<212> DNA

<213> Homo sapiens

<400> 38

```

atggctgctg gctgcctgct ggccttgact ctgacacttt tccaatcttt gctcatcggc 60
ccctcgtcgg aggagccgtt cccttcggcc gtcactatca aatcatgggt ggataagatg 120
caagaagacc ttgtcacact ggcaaaaaca gcaagtggag tcaatcagct tgttgatatt 180
tatgagaaat atcaagattt gtatactgtg gaaccaaata atgcacgcca gctggtagaa 240
attgcagcca gggatattga gaaacttctg agcaacagat ctaaagccct ggtgagcctg 300
gcattggaag cggagaaagt tcaagcagct caccagtgga gagaagattt tgcaagcaat 360
gaagttgtct actacaatgc aaaggatgat ctcgatcctg agaaaaatga cagtgaagcca 420
ggcagccaga ggataaaacc tgttttcatt gaagatgcta attttggacg acaaatatct 480
tatcagcacg cagcagtcca tttcctact gacatctatg agggctcaac aatttgtgta 540
aatgaactca actggacaag tgccttagat gaagttttca aaaagaatcg cgaggaagac 600
ccttcattat tgtggcaggt ttttggcagt gccactggcc tagctcgata ttatccagct 660
tcaccatggg ttgataatag tagaactcca aataagattg acctttatga tgtacgcaga 720
agaccatggg acatccaagg agctgcatct cctaaagaca tgcttattct ggtggatgtg 780
agtggaaagt ttagtggatt gacacttaaa ctgatccgaa catctgtctc cgaaatgtta 840
gaaaccctct cagatgatga tttcgtgaat gtagcttcat ttaacagcaa tgctcaggat 900
gtaagctgtt ttcagcacct tgtccaagca aatgtaagaa ataaaaaagt gttgaaagac 960
gcggtgaata atatcacagc caaaggaatt acagattata agaagggtt tagttttgct 1020
tttgaacagc tgcttaatta taatgtttcc agagcaaact gcaataagat tattatgcta 1080
ttcacggatg gaggagaaga gagagcccag gagatattta acaaatacaa taaagataaa 1140
aaagtacgtg tattcagggt ttcagttggg caacacaatt atgagagagg acctattcag 1200
tggtatggcct gtgaaaacaa aggttattat tatgaaattc cttccattgg tgcaataaga 1260
atcaatactc aggaatatatt ggatgttttg ggaagaccaa tgggttttagc aggagacaaa 1320
gctaagcaag tccaatggac aaatgtgtac ctggatgcat tggaactggg acttgtcatt 1380
actggaactc ttccggtctt caacataaacc ggccaatttg aaaataagac aaacttaaag 1440

```

aaccagctga	ttcttggtgt	gatgggagta	gatgtgtctt	tggaagatat	taaaagactg	1500
acaccacgtt	ttacactgtg	ccccaatggg	tattactttg	caatcgatcc	taatggttat	1560
gttttattac	atccaaatct	tcagccaaag	aaccccaaat	ctcaggagcc	agtaacattg	1620
gatttccttg	atgcagagtt	agagaatgat	attaaagtgg	agattcgaaa	taagatgatt	1680
gatggggaaa	gtggagaaaa	aacattcaga	actctggtta	aatctcaaga	tgagagatat	1740
attgacaaaag	gaaacaggac	atacacatgg	acacctgtca	atggcacaga	ttacagtttg	1800
gccttggtat	taccaaccta	cagttttttac	tatataaaaag	ccaaactaga	agagacaata	1860
actcaggcca	gatcaaaaaa	gggcaaaatg	aaggattcgg	aaaccctgaa	gccagataat	1920
tttgaagaat	ctggctatac	attcatagca	ccaagagatt	actgcaatga	cctgaaaata	1980
tcggataata	acactgaatt	tcttttaaat	ttcaacgagt	ttattgatag	aaaaactcca	2040
aacaacccat	catgtaacgc	ggatttgatt	aatagagtct	tgcttgatgc	aggctttaca	2100
aatgaacttg	tccaaaatta	ctggagtaag	cagaaaaata	tcaagggagt	gaaagcacga	2160
tttggttgga	ctgatgggtg	gattaccaga	gtttatccca	aagaggctgg	agaaaattgg	2220
caagaaaacc	cagagacata	tgaggacagc	ttctataaaa	ggagcctaga	taatgataac	2280
tatgttttca	ctgctcccta	ctttaacaaa	agtggacctg	gtgcctatga	atcgggcatt	2340
atggtaagca	aagctgtaga	aatatatatt	caagggaaac	ttcttaaacc	tgcagttggt	2400
ggaattaaaa	ttgatgtaaa	ttcctggata	gagaattttca	ccaaaacctc	aatcagagat	2460
ccgtgtgctg	gtccagtttg	tgactgcaaa	agaaacagtg	acgtaatgga	ttgtgtgatt	2520
ctggatgatg	gtgggtttct	tctgatggca	aatcatgatg	attatactaa	tcagattgga	2580
agattttttg	gagagattga	tcccagcttg	atgagacacc	tggttaatat	atcagtttat	2640
gcttttaaca	aatcttatga	ttatcagtc	gtatgtgagc	ccggtgctgc	acaaaaaca	2700
ggagcaggac	atcgctcagc	atatgtgcc	tcagtagcag	acatattaca	aattggctgg	2760
tgggccactg	ctgctgcctg	gtctattcta	cagcagtttc	tcttgagttt	gacctttcca	2820
cgactccttg	aggcagttga	gatggaggat	gatgacttca	cggcctccct	gtccaagcag	2880
agctgcatta	ctgaacaaac	ccagtatttc	ttcgataacg	acagtaaata	attcagtggt	2940
gtattagact	gtggaaactg	ttccagaatc	tttcatggag	aaaagcttat	gaacaccaac	3000
ttaatatcca	taatggttga	gagcaaaggg	acatgtccat	gtgacacacg	actgc	3055

<210> 39

<211> 3109

<212> DNA

<213> Homo sapiens

<400> 39

atggctgctg	gctgcctgct	ggccttgact	ctgacacttt	tccaatcttt	gctcatcggc	60
ccctcgctcg	aggagccgtt	cccttcggcc	gtcactatca	aatcatgggt	ggataagatg	120
caagaagacc	ttgtcacact	ggcaaaaaca	gcaagtggag	tcaatcagct	tgttgatatt	180
tatgagaaat	atcaagattt	gtatactgtg	gaaccaaata	atgcacgcca	gctggtagaa	240
attgcagcca	gggatattga	gaaacttctg	agcaacagat	ctaaagccct	ggtgagcctg	300
gcattggaag	cggagaaagt	tcaagcagct	caccagtggg	gagaagattt	tgcaagcaat	360
gaagtgtgct	actacaatgc	aaaggatgat	ctcgatcctg	agaaaaatga	cagtgagcca	420
ggcagccaga	ggataaaacc	tgttttcatt	gaagatgcta	atthttggacg	acaaatatct	480
tatcagcag	cagcagtc	tattcctact	gacatctatg	agggtcaac	aattgtgtta	540
aatgaactca	actggacaag	tgcccttagat	gaagttttca	aaaagaatcg	cgaggaagac	600
ccttcattat	tgtggcaggt	ttttggcagt	gccactggcc	tagctcgata	ttatccagct	660
tcaccatggg	ttgataatag	tagaactcca	aataagattg	acctttatga	tgtacgcaga	720
agaccatggg	acatccaagg	agctgcatct	cctaaagaca	tgcttattct	ggtggatgtg	780

```

agtggaagtg ttagtggatt gacacttaaa ctgatccgaa catctgtctc cgaaatgtta 840
gaaacctctc cagatgatga tttcgtgaat gtagcttcat ttaacagcaa tgctcaggat 900
gtaagctgtt ttcagcacct tgtccaagca aatgtaagaa ataaaaaagt gttgaaagac 960
gcggtgaata atatcacagc caaaggaatt acagattata agaagggctt tagttttgct 1020
tttgaacagc tgcttaatta taatgtttcc agagcaaact gcaataagat tattatgcta 1080
ttcacggatg gaggagaaga gagagcccag gagatattta acaaatacaa taaagataaa 1140
aaagtacgtg tattcaggtt ttcagttggt caacacaatt atgagagagg acctattcag 1200
tggtatggcct gtgaaaacaa aggttattat tatgaaattc cttccattgg tgcaataaga 1260
atcaatactc aggaatattt ggatgttttg ggaagaccaa tggtttttagc aggagacaaa 1320
gctaagcaag tccaatggac aaatgtgtac ctggatgcat tgggaactggg acttgtcatt 1380
actggaactc ttccggtctt caacataacc ggccaatttg aaaataagac aaacttaag 1440
aaccagctga ttcttgggtg gatgggagta gatgtgtctt tggaagatat taaaagactg 1500
acaccacgtt ttacactgtg ccccaatggg tattactttg caatcgatcc taatggttat 1560
gtttttattac atccaaatct tcagccaaag aaccccaaat ctcaggagcc agtaacattg 1620
gatttccttg atgcagagtt agagaatgat attaaagtgg agattcgaaa taagatgatt 1680
gatggggaaa gtggagaaaa aacattcaga actctggtta aatctcaaga tgagagatat 1740
attgacaaaag gaaacaggac atacacatgg acacctgtca atggcacaga ttacagtttg 1800
gccttgggtat taccaaccta cagttttttac tatataaaaag ccaaactaga agagacaata 1860
actcaggcca gatcaaaaaa gggcaaaatg aaggattcgg aaacctgaa gccagataat 1920
tttgaagaat ctggctatac attcatagca ccaagagatt actgcaatga cctgaaaata 1980
tcggataata aactgaatt tcttttaaat ttcaacgagt ttattgatag aaaaactcca 2040
aacaacccat catgtaacgc ggatttgatt aatagagtct tgcttgatgc aggctttaca 2100
aatgaacttg tccaaaatta ctggagtaag cagaaaaata tcaagggagt gaaagcacga 2160
tttgttgatga ctgatggtgg gattaccaga gtttatccca aagaggctgg agaaaattgg 2220
caagaaaacc cagagacata tgaggacagc ttctataaaa ggagcctaga taatgataac 2280
tatgttttca ctgctcccta ctttaacaaa agtggacctg gtgcctatga atcgggcatt 2340
atggtaagca aagctgtaga aatataatatt caagggaaac ttcttaaacc tgcagttggt 2400
ggaattaaaa ttgatgtaaa ttcttgata gagaatttca ccaaaacctc aatcagagat 2460
ccgtgtgctg gtccagtttg tgactgcaaa agaaacagtg acgtaatgga ttgtgtgatt 2520
ctggatgatg gtgggtttct tctgatggca aatcatgatg attatactaa tcagattgga 2580
agattttttg gagagattga tcccagcttg atgagacacc tggttaatat atcagtttat 2640
gcttttaaca aatcttatga ttatcagtcg gtatgtgagc ccggtgctgc accaaaacaa 2700
ggagcaggac atcgctcagc atatgtgcca tcagtagcag acatattaca aattggctgg 2760
tgggccactg ctgctgcctg gtctattcta cagcagtttc tcttgagttt gacctttcca 2820
cgactccttg aggagttga gatggaggat gatgacttca cggcctccct gtccaagcag 2880
agctgcatta ctgaacaaac ccagtatttc ttcgataacg acagtaaata attcagtggt 2940
gtattagact gtggaaactg ttccagaatc tttcatggag aaaagcttat gaacaccaac 3000
ttaatattca taatggttga gagcaaaggg acatgtccat gtgacacacg actgctcata 3060
caagcggagc agacttctga cggtcctaat ccttgtgaca tggttaagc 3109

```

<210> 40

<211> 3190

<212> DNA

<213> Homo sapiens

<400> 40

atggctgctg gctgcctgct ggcccttgact ctgacacttt tccaatcttt gctcatcggc 60

ccctcgtcgg aggagccgtt cccttcggcc gtcactatca aatcatgggt ggataagatg 120
caagaagacc ttgtcacact ggcaaaaaca gcaagtggag tcaatcagct tgttgatatt 180
tatgagaaat atcaagatth gtatactgtg gaaccaaata atgcacgcca gctggtagaa 240
attgcagcca gggatattga gaaacttctg agcaacagat cttaaagccct ggtgagcctg 300
gcattggaag cggagaaagt tcaagcagct caccagtggg gagaagattt tgcaagcaat 360
gaagtgtgtc actacaatgc aaaggatgat ctcgatcctg agaaaaatga cagtgaagcca 420
ggcagccaga ggataaaacc tgttttcatt gaagatgcta attttggacg acaaatatct 480
tatcagcacg cagcagtcga tattcctact gacatctatg agggctcaac aatttgtgta 540
aatgaactca actggacaag tgccttagat gaagttttca aaaagaatcg cgaggaagac 600
ccttcattat tgtggcaggt ttttggcagt gccactggcc tagctcgata ttatccagct 660
tcaccatggg ttgataatag tagaactcca aataagattg acctttatga tgtacgcaga 720
agaccatggg acatccaagg agctgcactc cctaaagaca tgcttattct ggtggatgtg 780
agtggaaagt ttagtggatt gacacttaaa ctgatccgaa catctgtctc cgaaatgtta 840
gaaaccctct cagatgatga tttcgtgaat gtagcttcat ttaacagcaa tgctcaggat 900
gtaagctgtt ttcagcacct tgtccaagca aatgtaagaa ataaaaaagt gttgaaagac 960
gcggtgaata atatcacagc caaaggaatt acagattata agaagggtt tagttttgct 1020
tttgaacagc tgcttaatta taatgtttcc agagcaaact gcaataagat tattatgcta 1080
ttcacggatg gaggagaaga gagagcccag gagatattta acaaatataa taaagataaa 1140
aaagtacgtg tattcaggtt ttcagttggg caacacaatt atgagagagg acctattcag 1200
tggtatggcct gtgaaaacaa aggttattat tatgaaattc cttccattgg tgcaataaga 1260
atcaatactc aggaatattt ggatgttttg ggaagaccaa tggttttagc aggagacaaa 1320
gctaagcaag tccaatggac aaatgtgtac ctggatgcat tggaaactggg acttgtcatt 1380
actggaactc ttccgggtctt caacataacc ggccaatttg aaaataagac aaacttaag 1440
aaccagctga ttcttggtgt gatgggagta gatgtgtctt tggaagatat taaaagactg 1500
acaccacgtt ttacactgtg ccccaatggg tattactttg caatcgatcc taatggttat 1560
gtttttattac atccaaatct tcagccaaag aaccccaaat ctcaggagcc agtaacattg 1620
gatttccttg atgcagagtt agagaatgat attaaagtgg agattcgaaa taagatgatt 1680
gatggggaaa gtggagaaaa aacattcaga actctgggta aatctcaaga tgagagatat 1740
attgacaaaag gaaacaggac atacacatgg acacctgtca atggcacaga ttacagtttg 1800
gccttggtat taccaacctc cagttttttac tatataaaag ccaaactaga agagacaata 1860
actcaggcca gatcaaaaaa gggcaaaatg aaggattcgg aaacctgaa gccagataat 1920
tttgaagaat ctggctatac attcatagca ccaagagatt actgcaatga cctgaaaata 1980
tcggataata acactgaatt tcttttaaat ttcaacgagt ttattgatag aaaaactcca 2040
aacaacccat catgtaacgc ggatttgatt aatagagtct tgcttgatgc aggctttaca 2100
aatgaacttg tccaaaatta ctggagtaag cagaaaaata tcaaggaggt gaaagcacga 2160
tttggtgtga ctgatggtgg gattaccaga gtttatccca aagaggctgg agaaaattgg 2220
caagaaaacc cagagacata tgaggacagc ttctataaaa ggagcctaga taatgataac 2280
tatgttttca ctgctcccta ctttaacaaa agtggacctg gtgcctatga atcgggcatt 2340
atggtaagca aagctgtaga aatataatatt caagggaac ttcttaaac tgcagttggt 2400
ggaattaaaa ttgatgtaaa ttcctggata gagaatttca ccaaaacctc aatcagagat 2460
ccgtgtgctg gtccagtttg tgactgcaaa agaaacagt acgtaatgga ttgtgtgatt 2520
ctggatgatg gtgggtttct tctgatggca aatcatgatg attatactaa tcagattgga 2580
agattttttg gagagattga tcccagcttg atgagacacc tggtaatat atcagtttat 2640
gcttttaaca aatcttatga ttatcagtca gtatgtgagc ccggtgctgc accaaaacaa 2700
ggagcaggac atcgctcagc atatgtgcc ttagtagcag acatattaca aattggctgg 2760
tgggccactg ctgctgcctg gtctattcta cagcagtttc tcttgagttt gacctttcca 2820
cgactccttg aggcagttga gatggaggat gatgacttca cggcctccct gtccaagcag 2880
agctgcatta ctgaacaaac ccagtatttc ttcgataacg acagtaaata attcagtggt 2940

gtattagact gtggaaactg ttccagaatc tttcatggag aaaagcttat gaacaccaac 3000
 ttaatatcca taatggttga gagcaaaggg acatgtccat gtgacacacg actgctcata 3060
 caagcgggagc agacttctga cggtcctaat ccttgtgaca tggttaagca acctagatac 3120
 cgaaaagggc ctgatgtctg ctttgataac aatgtcttgg aggattatac tgactgtggt 3180
 ggtgtttctg 3190

<210> 41

<211> 1018

<212> PRT

<213> Homo sapiens

<400> 41

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
 1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Ala Val Thr
 20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
 35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
 50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
 65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
 85 90 95

Leu Val Ser Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
 100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
 115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
 130 135 140

Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser
 145 150 155 160

Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
 165 170 175

Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
 180 185 190

Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
195 200 205
Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
210 215 220
Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
225 230 235 240
Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
245 250 255
Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
260 265 270
Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
275 280 285
Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
290 295 300
Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
305 310 315 320
Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
325 330 335
Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
340 345 350
Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
355 360 365
Ala Gln Glu Ile Phe Asn Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
370 375 380
Phe Arg Phe Ser Val Gly Gln His Asn Tyr Glu Arg Gly Pro Ile Gln
385 390 395 400
Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
405 410 415
Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
420 425 430
Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
435 440 445

Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
450 455 460

Pro Val Phe Asn Ile Thr Gly Gln Phe Glu Asn Lys Thr Asn Leu Lys
465 470 475 480

Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
485 490 495

Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
500 505 510

Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp
530 535 540

Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile
545 550 555 560

Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln
565 570 575

Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro
580 585 590

Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser
595 600 605

Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg
610 615 620

Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn
625 630 635 640

Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn
645 650 655

Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn
660 665 670

Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Ala Asp
675 680 685

Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val
690 695 700

Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg
 705 710 715 720
 Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala
 725 730 735
 Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr
 740 745 750
 Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe
 755 760 765
 Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys
 770 775 780
 Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val
 785 790 795 800
 Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr
 805 810 815
 Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn
 820 825 830
 Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu
 835 840 845
 Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly
 850 855 860
 Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
 865 870 875 880
 Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
 885 890 895
 Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Val
 900 905 910
 Ala Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
 915 920 925
 Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
 930 935 940
 Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
 945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
980 985 990

Gly Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu
1010 1015

<210> 42

<211> 1036

<212> PRT

<213> Homo sapiens

<400> 42

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Ala Val Thr
20 25 30

Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
35 40 45

Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
50 55 60

Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
65 70 75 80

Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
85 90 95

Leu Val Ser Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
100 105 110

Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
115 120 125

Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
130 135 140

Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser

145		150		155		160									
Tyr	Gln	His	Ala	Ala	Val	His	Ile	Pro	Thr	Asp	Ile	Tyr	Glu	Gly	Ser
				165					170					175	
Thr	Ile	Val	Leu	Asn	Glu	Leu	Asn	Trp	Thr	Ser	Ala	Leu	Asp	Glu	Val
			180					185					190		
Phe	Lys	Lys	Asn	Arg	Glu	Glu	Asp	Pro	Ser	Leu	Leu	Trp	Gln	Val	Phe
		195					200					205			
Gly	Ser	Ala	Thr	Gly	Leu	Ala	Arg	Tyr	Tyr	Pro	Ala	Ser	Pro	Trp	Val
	210					215					220				
Asp	Asn	Ser	Arg	Thr	Pro	Asn	Lys	Ile	Asp	Leu	Tyr	Asp	Val	Arg	Arg
225					230					235				240	
Arg	Pro	Trp	Tyr	Ile	Gln	Gly	Ala	Ala	Ser	Pro	Lys	Asp	Met	Leu	Ile
				245					250					255	
Leu	Val	Asp	Val	Ser	Gly	Ser	Val	Ser	Gly	Leu	Thr	Leu	Lys	Leu	Ile
		260						265					270		
Arg	Thr	Ser	Val	Ser	Glu	Met	Leu	Glu	Thr	Leu	Ser	Asp	Asp	Asp	Phe
		275					280					285			
Val	Asn	Val	Ala	Ser	Phe	Asn	Ser	Asn	Ala	Gln	Asp	Val	Ser	Cys	Phe
	290					295					300				
Gln	His	Leu	Val	Gln	Ala	Asn	Val	Arg	Asn	Lys	Lys	Val	Leu	Lys	Asp
305					310					315				320	
Ala	Val	Asn	Asn	Ile	Thr	Ala	Lys	Gly	Ile	Thr	Asp	Tyr	Lys	Lys	Gly
				325					330					335	
Phe	Ser	Phe	Ala	Phe	Glu	Gln	Leu	Leu	Asn	Tyr	Asn	Val	Ser	Arg	Ala
			340					345					350		
Asn	Cys	Asn	Lys	Ile	Ile	Met	Leu	Phe	Thr	Asp	Gly	Gly	Glu	Glu	Arg
	355						360					365			
Ala	Gln	Glu	Ile	Phe	Asn	Lys	Tyr	Asn	Lys	Asp	Lys	Lys	Val	Arg	Val
	370					375					380				
Phe	Arg	Phe	Ser	Val	Gly	Gln	His	Asn	Tyr	Glu	Arg	Gly	Pro	Ile	Gln
385					390					395				400	
Trp	Met	Ala	Cys	Glu	Asn	Lys	Gly	Tyr	Tyr	Tyr	Glu	Ile	Pro	Ser	Ile

405	410	415
Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg		
420	425	430
Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn		
435	440	445
Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu		
450	455	460
Pro Val Phe Asn Ile Thr Gly Gln Phe Glu Asn Lys Thr Asn Leu Lys		
465	470	475
Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp		
485	490	495
Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr		
500	505	510
Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln		
515	520	525
Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp		
530	535	540
Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile		
545	550	555
Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln		
565	570	575
Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro		
580	585	590
Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser		
595	600	605
Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg		
610	615	620
Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn		
625	630	635
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn		
645	650	655
Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn		

660	665	670
Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Ala Asp		
675	680	685
Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val		
690	695	700
Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg		
705	710	715
Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala		
725	730	735
Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr		
740	745	750
Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe		
755	760	765
Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys		
770	775	780
Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val		
785	790	795
Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr		
805	810	815
Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn		
820	825	830
Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu		
835	840	845
Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly		
850	855	860
Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr		
865	870	875
Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala		
885	890	895
Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Val		
900	905	910
Ala Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser		

915	920	925
Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu		
930	935	940
Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln		
945	950	955 960
Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys		
	965	970 975
Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His		
	980	985 990
Gly Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser		
	995	1000 1005
Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln		
1010	1015	1020
Thr Ser Asp Gly Pro Asn Pro Cys Asp Met Val Lys		
1025	1030	1035
<210> 43		
<211> 1063		
<212> PRT		
<213> Homo sapiens		
<400> 43		
Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser		
1	5	10 15
Leu Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Ala Val Thr		
	20	25 30
Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala		
	35	40 45
Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr		
50	55	60
Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu		
65	70	75 80
Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala		
	85	90 95

Leu Val Ser	Leu Ala Leu Glu Ala Glu Lys Val	Gln Ala Ala His Gln
100	105	110
Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys		
115	120	125
Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg		
130	135	140
Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser		
145	150	155 160
Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser		
165	170	175
Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val		
180	185	190
Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe		
195	200	205
Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val		
210	215	220
Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg		
225	230	235 240
Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile		
245	250	255
Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile		
260	265	270
Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe		
275	280	285
Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe		
290	295	300
Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp		
305	310	315 320
Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly		
325	330	335
Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala		
340	345	350

Asn Cys	Asn Lys	Ile Ile	Met Leu	Phe Thr	Asp Gly	Gly Glu	Glu Glu	Arg
355			360			365		
Ala Gln	Glu Ile	Phe Asn	Lys Tyr	Asn Lys	Asp Lys	Lys Val	Arg Val	
370			375			380		
Phe Arg	Phe Ser	Val Gly	Gln His	Asn Tyr	Glu Arg	Gly Pro	Ile Gln	
385			390			395		400
Trp Met	Ala Cys	Glu Asn	Lys Gly	Tyr Tyr	Tyr Glu	Ile Pro	Ser Ile	
		405			410		415	
Gly Ala	Ile Arg	Ile Asn	Thr Gln	Glu Tyr	Leu Asp	Val Leu	Gly Arg	
		420			425		430	
Pro Met	Val Leu	Ala Gly	Asp Lys	Ala Lys	Gln Val	Gln Trp	Thr Asn	
		435			440		445	
Val Tyr	Leu Asp	Ala Leu	Glu Leu	Gly Leu	Val Ile	Thr Gly	Thr Leu	
		450			455		460	
Pro Val	Phe Asn	Ile Thr	Gly Gln	Phe Glu	Asn Lys	Thr Asn	Leu Lys	
465			470			475		480
Asn Gln	Leu Ile	Leu Gly	Val Met	Gly Val	Asp Val	Ser Leu	Glu Asp	
		485			490		495	
Ile Lys	Arg Leu	Thr Pro	Arg Phe	Thr Leu	Cys Pro	Asn Gly	Tyr Tyr	
		500			505		510	
Phe Ala	Ile Asp	Pro Asn	Gly Tyr	Val Leu	Leu His	Pro Asn	Leu Gln	
		515			520		525	
Pro Lys	Asn Pro	Lys Ser	Gln Glu	Pro Val	Thr Leu	Asp Phe	Leu Asp	
		530			535		540	
Ala Glu	Leu Glu	Asn Asp	Ile Lys	Val Glu	Ile Arg	Asn Lys	Met Ile	
545			550			555		560
Asp Gly	Glu Ser	Gly Glu	Lys Thr	Phe Arg	Thr Leu	Val Lys	Ser Gln	
		565			570		575	
Asp Glu	Arg Tyr	Ile Asp	Lys Gly	Asn Arg	Thr Tyr	Thr Trp	Thr Pro	
		580			585		590	
Val Asn	Gly Thr	Asp Tyr	Ser Leu	Ala Leu	Val Leu	Pro Thr	Tyr Ser	
		595			600		605	

Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg			
610	615	620	
Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn			
625	630	635	640
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn			
	645	650	655
Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn			
	660	665	670
Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Ala Asp			
	675	680	685
Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val			
	690	695	700
Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg			
705	710	715	720
Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala			
	725	730	735
Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr			
	740	745	750
Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe			
	755	760	765
Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys			
	770	775	780
Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val			
785	790	795	800
Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr			
	805	810	815
Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn			
	820	825	830
Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu			
	835	840	845
Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly			
850	855	860	

Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr
865 870 875 880

Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala
885 890 895

Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Val
900 905 910

Ala Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser
915 920 925

Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu
930 935 940

Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln
945 950 955 960

Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys
965 970 975

Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His
980 985 990

Gly Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser
995 1000 1005

Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln
1010 1015 1020

Thr Ser Asp Gly Pro Asn Pro Cys Asp Met Val Lys Gln Pro Arg Tyr
1025 1030 1035 1040

Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Val Leu Glu Asp Tyr
1045 1050 1055

Thr Asp Cys Gly Gly Val Ser
1060

<210> 44

<211> 1091

<212> PRT

<213> Homo sapiens

<400> 44

Met Ala Ala Gly Cys Leu Leu Ala Leu Thr Leu Thr Leu Phe Gln Ser
1 5 10 15

Leu Leu Ile Gly Pro Ser Ser Glu Glu Pro Phe Pro Ser Ala Val Thr
 20 25 30
 Ile Lys Ser Trp Val Asp Lys Met Gln Glu Asp Leu Val Thr Leu Ala
 35 40 45
 Lys Thr Ala Ser Gly Val Asn Gln Leu Val Asp Ile Tyr Glu Lys Tyr
 50 55 60
 Gln Asp Leu Tyr Thr Val Glu Pro Asn Asn Ala Arg Gln Leu Val Glu
 65 70 75 80
 Ile Ala Ala Arg Asp Ile Glu Lys Leu Leu Ser Asn Arg Ser Lys Ala
 85 90 95
 Leu Val Ser Leu Ala Leu Glu Ala Glu Lys Val Gln Ala Ala His Gln
 100 105 110
 Trp Arg Glu Asp Phe Ala Ser Asn Glu Val Val Tyr Tyr Asn Ala Lys
 115 120 125
 Asp Asp Leu Asp Pro Glu Lys Asn Asp Ser Glu Pro Gly Ser Gln Arg
 130 135 140
 Ile Lys Pro Val Phe Ile Glu Asp Ala Asn Phe Gly Arg Gln Ile Ser
 145 150 155 160
 Tyr Gln His Ala Ala Val His Ile Pro Thr Asp Ile Tyr Glu Gly Ser
 165 170 175
 Thr Ile Val Leu Asn Glu Leu Asn Trp Thr Ser Ala Leu Asp Glu Val
 180 185 190
 Phe Lys Lys Asn Arg Glu Glu Asp Pro Ser Leu Leu Trp Gln Val Phe
 195 200 205
 Gly Ser Ala Thr Gly Leu Ala Arg Tyr Tyr Pro Ala Ser Pro Trp Val
 210 215 220
 Asp Asn Ser Arg Thr Pro Asn Lys Ile Asp Leu Tyr Asp Val Arg Arg
 225 230 235 240
 Arg Pro Trp Tyr Ile Gln Gly Ala Ala Ser Pro Lys Asp Met Leu Ile
 245 250 255
 Leu Val Asp Val Ser Gly Ser Val Ser Gly Leu Thr Leu Lys Leu Ile
 260 265 270

Arg Thr Ser Val Ser Glu Met Leu Glu Thr Leu Ser Asp Asp Asp Phe
 275 280 285
 Val Asn Val Ala Ser Phe Asn Ser Asn Ala Gln Asp Val Ser Cys Phe
 290 295 300
 Gln His Leu Val Gln Ala Asn Val Arg Asn Lys Lys Val Leu Lys Asp
 305 310 315 320
 Ala Val Asn Asn Ile Thr Ala Lys Gly Ile Thr Asp Tyr Lys Lys Gly
 325 330 335
 Phe Ser Phe Ala Phe Glu Gln Leu Leu Asn Tyr Asn Val Ser Arg Ala
 340 345 350
 Asn Cys Asn Lys Ile Ile Met Leu Phe Thr Asp Gly Gly Glu Glu Arg
 355 360 365
 Ala Gln Glu Ile Phe Asn Lys Tyr Asn Lys Asp Lys Lys Val Arg Val
 370 375 380
 Phe Arg Phe Ser Val Gly Gln His Asn Tyr Glu Arg Gly Pro Ile Gln
 385 390 395 400
 Trp Met Ala Cys Glu Asn Lys Gly Tyr Tyr Tyr Glu Ile Pro Ser Ile
 405 410 415
 Gly Ala Ile Arg Ile Asn Thr Gln Glu Tyr Leu Asp Val Leu Gly Arg
 420 425 430
 Pro Met Val Leu Ala Gly Asp Lys Ala Lys Gln Val Gln Trp Thr Asn
 435 440 445
 Val Tyr Leu Asp Ala Leu Glu Leu Gly Leu Val Ile Thr Gly Thr Leu
 450 455 460
 Pro Val Phe Asn Ile Thr Gly Gln Phe Glu Asn Lys Thr Asn Leu Lys
 465 470 475 480
 Asn Gln Leu Ile Leu Gly Val Met Gly Val Asp Val Ser Leu Glu Asp
 485 490 495
 Ile Lys Arg Leu Thr Pro Arg Phe Thr Leu Cys Pro Asn Gly Tyr Tyr
 500 505 510
 Phe Ala Ile Asp Pro Asn Gly Tyr Val Leu Leu His Pro Asn Leu Gln
 515 520 525

Pro Lys Asn Pro Lys Ser Gln Glu Pro Val Thr Leu Asp Phe Leu Asp			
530	535	540	
Ala Glu Leu Glu Asn Asp Ile Lys Val Glu Ile Arg Asn Lys Met Ile			
545	550	555	560
Asp Gly Glu Ser Gly Glu Lys Thr Phe Arg Thr Leu Val Lys Ser Gln			
	565	570	575
Asp Glu Arg Tyr Ile Asp Lys Gly Asn Arg Thr Tyr Thr Trp Thr Pro			
	580	585	590
Val Asn Gly Thr Asp Tyr Ser Leu Ala Leu Val Leu Pro Thr Tyr Ser			
	595	600	605
Phe Tyr Tyr Ile Lys Ala Lys Leu Glu Glu Thr Ile Thr Gln Ala Arg			
610	615	620	
Ser Lys Lys Gly Lys Met Lys Asp Ser Glu Thr Leu Lys Pro Asp Asn			
625	630	635	640
Phe Glu Glu Ser Gly Tyr Thr Phe Ile Ala Pro Arg Asp Tyr Cys Asn			
	645	650	655
Asp Leu Lys Ile Ser Asp Asn Asn Thr Glu Phe Leu Leu Asn Phe Asn			
	660	665	670
Glu Phe Ile Asp Arg Lys Thr Pro Asn Asn Pro Ser Cys Asn Ala Asp			
	675	680	685
Leu Ile Asn Arg Val Leu Leu Asp Ala Gly Phe Thr Asn Glu Leu Val			
	690	695	700
Gln Asn Tyr Trp Ser Lys Gln Lys Asn Ile Lys Gly Val Lys Ala Arg			
705	710	715	720
Phe Val Val Thr Asp Gly Gly Ile Thr Arg Val Tyr Pro Lys Glu Ala			
	725	730	735
Gly Glu Asn Trp Gln Glu Asn Pro Glu Thr Tyr Glu Asp Ser Phe Tyr			
	740	745	750
Lys Arg Ser Leu Asp Asn Asp Asn Tyr Val Phe Thr Ala Pro Tyr Phe			
	755	760	765
Asn Lys Ser Gly Pro Gly Ala Tyr Glu Ser Gly Ile Met Val Ser Lys			
770	775	780	

Ala Val Glu Ile Tyr Ile Gln Gly Lys Leu Leu Lys Pro Ala Val Val	785	790	795	800
Gly Ile Lys Ile Asp Val Asn Ser Trp Ile Glu Asn Phe Thr Lys Thr		805	810	815
Ser Ile Arg Asp Pro Cys Ala Gly Pro Val Cys Asp Cys Lys Arg Asn		820	825	830
Ser Asp Val Met Asp Cys Val Ile Leu Asp Asp Gly Gly Phe Leu Leu	835		840	845
Met Ala Asn His Asp Asp Tyr Thr Asn Gln Ile Gly Arg Phe Phe Gly	850	855		860
Glu Ile Asp Pro Ser Leu Met Arg His Leu Val Asn Ile Ser Val Tyr	865	870	875	880
Ala Phe Asn Lys Ser Tyr Asp Tyr Gln Ser Val Cys Glu Pro Gly Ala		885	890	895
Ala Pro Lys Gln Gly Ala Gly His Arg Ser Ala Tyr Val Pro Ser Val		900	905	910
Ala Asp Ile Leu Gln Ile Gly Trp Trp Ala Thr Ala Ala Ala Trp Ser	915		920	925
Ile Leu Gln Gln Phe Leu Leu Ser Leu Thr Phe Pro Arg Leu Leu Glu	930	935		940
Ala Val Glu Met Glu Asp Asp Asp Phe Thr Ala Ser Leu Ser Lys Gln	945	950	955	960
Ser Cys Ile Thr Glu Gln Thr Gln Tyr Phe Phe Asp Asn Asp Ser Lys		965	970	975
Ser Phe Ser Gly Val Leu Asp Cys Gly Asn Cys Ser Arg Ile Phe His		980	985	990
Gly Glu Lys Leu Met Asn Thr Asn Leu Ile Phe Ile Met Val Glu Ser	995		1000	1005
Lys Gly Thr Cys Pro Cys Asp Thr Arg Leu Leu Ile Gln Ala Glu Gln	1010	1015		1020
Thr Ser Asp Gly Pro Asn Pro Cys Asp Met Val Lys Gln Pro Arg Tyr	1025	1030	1035	1040

Arg Lys Gly Pro Asp Val Cys Phe Asp Asn Asn Val Leu Glu Asp Tyr
1045 1050 1055

Thr Asp Cys Gly Gly Val Ser Gly Leu Asn Pro Ser Leu Trp Tyr Ile
1060 1065 1070

Ile Gly Ile Gln Phe Leu Leu Leu Trp Leu Val Ser Gly Ser Thr His
1075 1080 1085

Arg Leu Leu
1090

<210> 45

<211> 3600

<212> DNA

<213> Homo sapiens

<400> 45

```

gcggggggagg gggcattgat cttcgatcgc gaagatggct gctggctgcc tgctggcctt 60
gactctgaca cttttccaat ctttgcctcat cggccctcgc tcggaggagc cgttcccttc 120
ggccgtcact atcaaactcat ggggtggataa gatgcaagaa gaccttgtca cactggcaaa 180
aacagcaagt ggagtcaatc agcttggtga tatttatgag aaatatcaag atttgtatac 240
tgtggaacca aataatgcac gccagctggc agaaattgca gccagggata ttgagaaact 300
tctgagcaac agatctaaag ccctgggtgag cctggcattg gaagcggaga aagttcaagc 360
agctcaccag tggagagaag attttgcaag caatgaagtt gtctactaca atgcaaagga 420
tgatctcgat cctgagaaaa atgacagtga gccaggcagc cagaggataa aacctgtttt 480
cattgaagat gctaattttg gacgacaaat atcttatcag cacgcagcag tccatattcc 540
tactgacatc tatgaggggt caacaattgt gttaaataaa ctcaactgga caagtgcctt 600
agatgaagtt ttcaaaaaga atcgcgagga agacccttca ttattgtggc aggttttttg 660
cagtgccact ggcctagctc gatattatcc agcttcacca tgggttgata atagtagaac 720
tccaaataag attgaccttt atgatgtacg cagaagacca tgggtacatcc aaggagctgc 780
atctcctaaa gacatgctta ttctgggtgga tgtgagtgga agtggttagtg gattgacact 840
taaactgatc cgaacatctg tctccgaaat gttagaaacc ctctcagatg atgatttcgt 900
gaatgtagct tcatttaaca gcaatgctca ggatgtaagc tgttttcagc acctgttcca 960
agcaaatagt agaaataaaa aagtgttgaa agacgcgggtg aataatatca cagccaaagg 1020
aattacagat tataagaagg gcttttagttt tgcttttgaa cagctgctta attataatgt 1080
ttccagagca aactgcaata agattattat gctattcacg gatggaggag aagagagagc 1140
ccaggagata tttaacaaat acaataaaga taaaaaagta cgtgtattca ggttttcagt 1200
tgggtcaacac aattatgaga gaggacctat tcagtggatg gcctgtgaaa acaaagggtta 1260
ttattatgaa attccttcca ttggtgcaat aagaatcaat actcaggaat atttggatgt 1320
tttggaaga ccaatggttt tagcaggaga caaagctaag caagtccaat ggacaaatgt 1380
gtacctgat gcatgggaac tgggacttgt cattactgga actcttcagg tcttcaacat 1440
aaccggccaa tttgaaaata agacaaactt aaagaaccag ctgattcttg gtgtgatggg 1500
agtagatgtg tctttggaag atattaaaag actgacacca cgttttacac tgtgccccaa 1560
tgggtattac tttgcaatcg atcctaattg ttatgtttta ttacatcaa atcttcagcc 1620
aaagaacccc aaatctcagg agccagtaac attggatttc cttgatgcag agttagagaa 1680

```

```

tgaatattaaa gtggagattc gaaataagat gattgatggg gaaagtggag aaaaaacatt 1740
cagaactctg gttaaattctc aagatgagag atatattgac aaaggaaaca ggacatacac 1800
atggacacct gtcaatggca cagattacag tttggccttg gtattaccaa cctacagttt 1860
ttactatata aaagccaaac tagaagagac aataactcag gccagatcaa aaaagggcaa 1920
aatgaaggat tcggaacccc tgaagccaga taattttgaa gaactctggc atacattcat 1980
agcaccaaga gattactgca atgacctgaa aatatcggat aataacactg aattttctttt 2040
aaatttcaac gagttttattg atagaaaaac tccaaacaac ccatcatgta acgcgggattt 2100
gattaataga gtcttgcttg atgcaggctt taaaaatgaa cttgtccaaa attactggag 2160
taagcagaaa aatatcaagg gagtgaaagc acgatttggt gtgactgatg gtgggattac 2220
cagagtttat cccaaagagg ctggagaaaa ttggcaagaa aaccagagaga catatgagga 2280
cagcttctat aaaaggagcc tagataatga taactatggt ttactgctc cctactttaa 2340
caaaagtgga cctggtgcct atgaatcggg cattatggta agcaaagctg tagaaatata 2400
tattcaaggg aaacttctta aacctgcagt tgttggaatt aaaattgatg taaattcctg 2460
gatagagaat ttcacaaaaa cctcaatcag agatccgtgt gctgggtccag tttgtgactg 2520
caaaagaaac agtgacgtaa tggatttgtt gattctggat gatggtgggt ttcttctgat 2580
ggcaaatcat gatgattata ctaatcagat tggaagattt tttggagaga ttgatccag 2640
cttgatgaga cacctgggta atatatcagt ttatgctttt aacaaatctt atgattatca 2700
gtcagtatgt gagcccggtg ctgcacaaaa acaaggagca ggacatcgct cagcatatgt 2760
gccatcagta gcagacatat taaaaattgg ctggtgggcc actgctgctg cctggtctat 2820
tctacagcag tttctcttga gtttgacctt tccacgactc cttgaggcag ttgagatgga 2880
ggatgatgac ttcacggcct cctgttccaa gcagagctgc attactgaac aaaccagta 2940
tttcttcgat aacgacagta aatcattcag tgggtgatta gactgtggaa actgttccag 3000
aatctttcat ggagaaaagc ttatgaacac caacttaata ttcataatgg ttgagagcaa 3060
agggacatgt ccatgtgaca cacgactgct catacaagcg gagcagactt ctgacgggtcc 3120
aaatccttgt gacatgggta agcaacctag ataccgaaaa gggcctgatg tctgctttga 3180
taacaatgtc ttggaggatt atactgactg tgggtggtgt tctggattaa atccctccct 3240
gtggtatatc attggaatcc agtttctact actttggctg gtatctggca gcacacaccg 3300
gctgttatga ctttctaaaa accaaatctg catagttaaa ctccagaccc tgccaaaaca 3360
tgagccctgc cctcaattac agtaacgtag ggtcagctat aaaatcagac aaacattagc 3420
tgggcctgtt ccatggcata aactaaggc gcgactcct aaggcaccga ctggctgcat 3480
gtcaggggtg cagatcctta aacgtgtgtg aatgctgcat catctatgtg taacatcaaa 3540
gcaaaatcct atacgtgtcc tctattggaa aatttgggcg tttgttggtg cattgttggt 3600

```

<210> 46

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 46

ggggattgat cttcgatcgc g

21

<210> 47

<211> 21

<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 47

ctgagatttg gggttctttg g

21

<210> 48

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 48

tcgccaccat ggctgctggc tgccctgctg

29

<210> 49

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 49

tcggaattcc tcagtgatgg tgatggtgat gagaaacacc accacagtcg gt

52

<210> 50

<211> 3201

<212> DNA

<213> Homo sapiens

<400> 50

ccatgcctgc aactcccaac ttctctgcaa accccagctc cagcagccgc tggattcccc 60
tccagccaat gcccgctggcc tgggcctttg tgcagaagac ctcgccctc ctgtggctgc 120
tgcttctagg cacctccctg tcccctgctg ggggacaggc caagattcct ctggaaacag 180
tgaagctatg ggctgacacc ttccggcgggg acctgtataa cactgtgacc aaatactcag 240
gctctctctt gctgcagaag aagtacaagg atgtggagtc cagtctgaag atcgaggagg 300
tggatggctt ggagctggtg aggaagttct cagaggacat ggagaacatg ctgcggagga 360
aagtcgaggc ggtccagaat ctggtggaag ctgccgagga ggccgacctg aaccacgaat 420
tcaatgaatc cctggtgttc gactattaca actcggtcct gatcaacgag agggacgaga 480

agggcaactt	cgtggagctg	ggcgccgagt	tcctcctgga	gtccaatgct	cacttcagca	540
acctgccggt	gaacacctcc	atcagcagcg	tgcagctgcc	caccaacgtg	tacaacaaag	600
accagatat	tttaaagtga	gtctacatgt	ctgaagcctt	gaatgctgtc	ttcgtggaga	660
acttccagag	agaccaacg	ttgacctggc	aatatTTTTg	cagtgcaact	ggattcttca	720
ggatctatcc	aggtataaaa	tggacacctg	atgagaatgg	agtcattact	tttgactgcc	780
gaaaccgcgg	ctggtacatt	caagctgcta	cttctcccaa	ggacatagtg	atTTTggtgg	840
acgtgagcgg	cagtatgaag	gggctgagga	tgactattgc	caagcacacc	atcaccacca	900
tcttggacac	cctgggggag	aatgacttcg	ttaatatcat	agcgtacaat	gactacgtcc	960
attacatcga	gccttgTTTT	aaagggatcc	tcgtccaggc	ggaccgagac	aatcgagagc	1020
atTTcaaaact	gctggtggag	gagttgatgg	tcaaaggtgt	gggggtcgtg	gaccaagccc	1080
tgagagaagc	cttccagatc	ctgaagcagt	tccaagaggc	caagcaagga	agcctctgca	1140
accaggccat	catgctcatc	agcgacggcg	ccgtggagga	ctacgagccg	gtgtttgaga	1200
agtataactg	gccagactgt	aaggTccgag	TTTTcactta	cctcattggg	agagaagtgt	1260
ctTTtgctga	ccgcatgaag	tggattgcat	gcaacaacaa	aggctactac	acgcagatct	1320
caacgctggc	ggacaccag	gagaacgtga	tggaaatacct	gcacgtgctc	agccgccccca	1380
tggtcatcaa	ccacgaccac	gacatcatct	ggacagaggc	ctacatggac	agcaagctcc	1440
tcagctcgca	ggctcagagc	ctgacactgc	tcaccactgt	ggccatgccca	gtcttcagca	1500
agaagaacga	aacgcgatcc	catggcattc	tcctgggtgt	ggtgggctca	gatgtggccc	1560
tgagagagct	gatgaagctg	gcgccccggt	acaagcttgg	agtgcacgga	tacgcctttc	1620
tgaacaccaa	caatggctac	atcctctccc	atcccgacct	ccggccccctg	tacagagagg	1680
ggaagaaact	aaaacccaaa	cctaactaca	acagtgtgga	tctctccgaa	gtggagtggg	1740
aagaccaggc	tgaatctctg	agaacagcca	tgatcaatag	ggaaacaggt	actctctcga	1800
tggatgtgaa	ggttccgatg	gataaaggga	agcgagttct	tttcttgacc	aatgactact	1860
tcttcacgga	catcagcgac	acccctttca	gtttgggggt	ggtgctgtcc	cggggccacg	1920
gagaatacat	ccttctgggg	aacacgtctg	tggaagaagg	cctgcatgac	ttgcttcacc	1980
cagacctggc	cctggccggt	gactggatct	actgcatcac	agatattgac	ccagaccacc	2040
ggaagctcag	ccagctagag	gccatgatcc	gcttcctcac	caggaaggac	ccagacctgg	2100
agtgtgacga	ggagctggtc	cgggaggtgc	tgtttgacgc	ggtggtgaca	gcccccatgg	2160
aagcctactg	gacagcgctg	gccctcaaca	tgtccgagga	gtctgaacac	gtggtggaca	2220
tggccttcc	gggcacccgg	gctggcctcc	tgagaagcag	cttggttcgtg	ggctccgaga	2280
aggtctccga	gtggcctcct	gagaagcagc	ttgttcgtgg	gctccgagaa	ggtctccgac	2340
aggaagtTcc	tgacacctga	ggacgaggcc	agcgtgttca	ccctggaccg	cttcccgtctg	2400
tggTaccgcc	aggcctcaga	gcatactgct	ggcagcttcg	tcttcaacct	ccgctgggca	2460
gaaggaccag	aaagtgcggg	tgaacccatg	gtggtgacgg	caagcacagc	tgtggcggtg	2520
accgtggaca	agaggacagc	cattgctgca	gccgcggggc	tccaaatgaa	gctggaattc	2580
ctccagcgca	aattctgggc	ggcaacgcgg	cagtgcagca	ctgtggatgg	gccgtgcaca	2640
cagagctgcg	aggacagtga	tctggactgc	ttcgtcatcg	acaacaacgg	gttcattctg	2700
atctccaaga	ggtcccgaga	gacgggaaga	tttctggggg	aggtggatgg	tgctgtcctg	2760
accagctgc	tcagcatggg	ggtgttcagc	caagtgacta	tgtatgacta	tcaggccatg	2820
tgcaaacct	cgagtacca	ccacagtgc	gcccagcccc	tggtcagccc	aatttctgcc	2880
ttcttgacgg	cgaccaggtg	gctgctgcag	gagctggtgc	tgttctctgt	ggagtggagt	2940
gtctggggct	cctggtacga	cagagggggc	gaggccaaaa	gtgtcttcca	tcactcccac	3000
aaacacaaga	agcaggaccc	gctgcagccc	tgcgacacgg	agtaccccgt	gttcgtgtac	3060
cagccggcca	tccgggaggc	caacgggatc	gtggagtgcg	ggccctgcca	gaaggtatTT	3120
gtggtgcagc	agattcccaa	cagtaacctc	ctcctcctgg	tgacagaccc	cacctgtgac	3180
tgcagcatct	tcccaccagt	g				3201

<210> 51
 <211> 3209
 <212> DNA
 <213> Homo sapiens

<400> 51
 ccatgcctgc aactcccaac ttcctcgcaa accccagctc cagcagccgc tggattcccc 60
 tccagccaat gcccgaggcc tgggcctttg tgcagaagac ctcgccctc ctgtggctgc 120
 tgcttctagg cacctccctg tccctgctg ggggacaggc caagattcct ctggaaacag 180
 tgaagctatg ggctgacacc ttcggcgagg acctgtataa cactgtgacc aaatactcag 240
 gctctctctt gctgcagaag aagtacaagg atgtggagtc cagtctgaag atcaggagg 300
 tggatggctt ggagctggtg aggaagttct cagaggacat ggagaacatg ctgaggagga 360
 aagtcgaggg ggtccagaat ctggtggaag ctgccgagga ggccgacctg aaccacgaat 420
 tcaatgaatc cctggtgttc gactattaca actcggtcct gatcaacgag agggacgaga 480
 agggcaactt cgtggagctg ggcgcagagt tccctctgga gtccaatgct cacttcagca 540
 acctgccggg gaacacctcc atcagcagcg tgcagctgcc caccaacgtg tacaacaaag 600
 acccagatat tttaaatgga gtctacatgt ctgaagcctt gaatgctgtc ttcgtggaga 660
 acttccagag agaccaacg ttgacctggc aatatttttg cagtgcact ggattcttca 720
 ggatctatcc aggtataaaa tggacacctg atgagaatgg agtcattact tttgactgcc 780
 gaaaccgcgg ctggtacatt caagctgcta cttctcccaa ggacatagtg attttggagg 840
 acgtgagcgg cagtatgaag gggctgagga tgactattgc caagcacacc atcaccacca 900
 tcttggacac cctgggggag aatgacttcg ttaatatcat agcgtacaat gactacgtcc 960
 attacatcga gccttgtttt aaagggatcc tcgtccaggg ggaccgagac aatcgagagc 1020
 atttcaaact gctggtggag gagttgatgg tcaaagggtg gggggctcgtg gaccaagccc 1080
 tgagagaagc cttccagatc ctgaagcagt tccaagaggc caagcaagga agcctctgca 1140
 accaggccat catgctcatc agcgacggcg ccgtggagga ctacgagccg gtgtttgaga 1200
 agtataactg gccagactgt aagggtccgag ttttacttta cctcattggg agagaagtgt 1260
 cttttgctga ccgcatgaag tggattgcat gcaacaacaa aggctactac acgcagatct 1320
 caacgctggc ggacacccag gagaacgtga tggaaacct gcacgtgctc agccgcccc 1380
 tggatcatca ccacgaccac gacatcatct ggacagaggc ctacatggac agcaagctcc 1440
 tcagctcgca ggctcagagc ctgacactgc tcaccactgt ggccatgcc 1500
 agaagaacga aacgcgatcc catggcatcc tcttgggtgt ggtgggctca gatgtggccc 1560
 tgagagagct gatgaagctg gcgccccggg acaagcttgg agtgcacgga tacgccttcc 1620
 tgaacaccaa caatggctac atcctctccc atcccgacct ccggccccctg tacagagagg 1680
 ggaagaaact aaaacccaaa cctaactaca acagtgtgga tctctccgaa gtggagtggg 1740
 aagaccaggc tgaatctctg agaacagcca tgatcaatag ggaaacaggt actctctcga 1800
 tggatgtgaa ggttccgatg gataaaggga agcgagttct tttcctgacc aatgactact 1860
 tcttcacgga catcagcgac acccctttca gtttgggggt ggtgctgtcc cggggccacg 1920
 gagaatacat cttcttgggg aacacgtctg tggagaagg cctgcatgac ttgcttcacc 1980
 cagacctggc cctggccggg gactggatct actgcatcac agatattgac ccagaccacc 2040
 ggaagctcag ccagctagag gccatgatcc gcttcctcac caggaaggac ccagacctgg 2100
 agtgtgacga ggagctggtc cgggaggtgc tgtttgacgc ggtggtgaca gccccatgg 2160
 aagcctactg gacagcgtg gccctcaaca tgtccgagga gtctgaacac gtggtggaca 2220
 tggccttccg gggcaccggg gctggcctcc tgagaagcag cttgttcgtg ggctccgaga 2280
 aggtctccga caggaagtcc ctgacacctg aggacgaggg cagcgtgttc accctggacc 2340
 gcttcccgct gtggtaccgc caggcctcag agcatcctgc tggcagcttc gtcttcaacc 2400
 tccgctgggc agaaggacca gaaagtgcgg gtgaacctat ggtggtgacg gcaagcacag 2460
 ctgtggcggg gaccgtggac aagaggacag ccattgctgc agccgcgggc gtccaaatga 2520

agctggaatt	cctccagcgc	aaattctggg	cggcaacgcg	gcagtgcagc	actgtggatg	2580
ggccgtgcac	acagagctgc	gaggacagt	atctggactg	cttcgtcatc	gacaacaacg	2640
ggttcattct	gatctccaag	aggtcccag	agacgggaag	atctctgggg	gaggtggatg	2700
gtgctgtcct	gacccagctg	ctcagcatgg	gggtgttcag	ccaagtgact	atgtatgact	2760
atcaggccat	gtgcaaacc	tcgagtcacc	accacagtgc	agcccagccc	ctggtcagcc	2820
caatttctgc	cttcttgacg	gcgaccaggt	ggctgctgca	ggagctgggtg	ctgttcctgc	2880
tggagtggag	tgtctggggc	tcctggtacg	acagaggggc	cgaggccaaa	agtgtcttcc	2940
atcactccca	caaacacaag	aagcaggacc	cgctgcagcc	ctgcgacacg	gagtaccccg	3000
tgttcgtgta	ccagccggcc	atccgggagg	ccaacgggat	cgtggagtgc	gggccctgcc	3060
agaaggtatt	tgtggtgcag	cagattccca	acagtaacct	cctcctcctg	gtgacagacc	3120
ccacctgtga	ctgcagcatc	ttcccaccag	tgtctcagga	ggcgacagaa	gtcaaataata	3180
atgcctctgt	caaatgtgac	cggatgcgc				3209

<210> 52

<211> 3339

<212> DNA

<213> Homo sapiens

<400> 52

ccatgcctgc	aactcccaac	ttcctcgcaa	accccagctc	cagcagccgc	tggattcccc	60
tccagccaat	gcccgtggcc	tgggcctttg	tgcagaagac	ctcggccctc	ctgtggctgc	120
tgcttctagg	cacctccctg	tcccctgcgt	ggggacaggg	caagattcct	ctggaaacag	180
tgaagctatg	ggctgacacc	ttcggcgggg	acctgtataa	cactgtgacc	aaatactcag	240
gctctctctt	gctgcagaag	aagtacaagg	atgtggagtc	cagtctgaag	atcaggaggag	300
tggatggctt	ggagctgggtg	aggaagttct	cagaggacat	ggagaacatg	ctgcggagga	360
aagtcgaggg	ggtccagaat	ctggtggaag	ctgccgagga	ggccgacctg	aaccacgaat	420
tcaatgaatc	cctggtgttc	gactattaca	actcggctct	gatcaacgag	agggacgaga	480
agggcaactt	cgtggagctg	ggcgccgagt	tcctcctgga	gtccaatgct	cacttcagca	540
acctgccggg	gaacacctcc	atcagcagcg	tgcagctgcc	caccaacgtg	tacaacaaag	600
accagatat	tttaaagtga	gtctacatgt	ctgaagcctt	gaatgctgtc	ttcgtggaga	660
acttccagag	agacccaacg	ttgacctggc	aatatttttg	cagtgcaact	ggattcttca	720
ggatctatcc	aggtataaaa	tggacacctg	atgagaatgg	agtcattact	tttgactgcc	780
gaaaccgcgg	ctggtacatt	caagctgcta	cttctcccaa	ggacatagtg	atcttgggtg	840
acgtgagcgg	cagtatgaag	gggctgagga	tgactattgc	caagcacacc	atcaccacca	900
tcttggaac	cctgggggag	aatgacttcg	ttaatatcat	agcgtacaat	gactacgtcc	960
attacatcga	gccttggtttt	aaagggatcc	tcgtccaggg	ggaccgagac	aatcgagagc	1020
atctcaaact	gctggtggag	gagttgatgg	tcaaaggtgt	gggggtcgtg	gaccaagccc	1080
tgagagaagc	cttcagatc	ctgaagcagt	tccaagaggc	caagcaagga	agcctctgca	1140
accaggccat	catgctcatc	agcgacggcg	ccgtggagga	ctacgagccg	gtgtttgaga	1200
agtataactg	gccagactgt	aaggtccgag	ttttcactta	cctcattggg	agagaagtg	1260
cttttgctga	ccgcatgaag	tggattgcat	gcaacaacaa	aggctactac	acgcagatct	1320
caacgctggc	ggacaccag	gagaacgtga	tggaaatacct	gcacgtgctc	agccgcccc	1380
tggatcatca	ccacgaccac	gacatcatct	ggacagaggc	ctacatggac	agcaagctcc	1440
tcagctcgca	ggctcagagc	ctgacactgc	tcaccactgt	ggccatgcc	gtcttcagca	1500
agaagaacga	aacgcgatcc	catggcattc	tcctgggtgt	ggtgggctca	gatgtggccc	1560
tgagagagct	gatgaagctg	gcgccccggg	acaagcttgg	agtgcacgga	tacgcctttc	1620
tgaacaccaa	caatggctac	atcctctccc	atcccgaact	ccggccctcg	tacagagagg	1680


```

ggaagaaact aaaacccaaa cctaactaca acagtgtgga tctctccgaa gtggagtggg 1740
aagaccaggc tgaatctctg agaacagcca tgatcaatag ggaaacaggt actctctcga 1800
tggatgtgaa ggttccgatg gataaaggga agcgagttct tttcctgacc aatgactact 1860
tcttcacgga catcagcgac acccctttca gtttgggggt ggtgctgtcc cggggccacg 1920
gagaatacat ctttctgggg aacacgtctg tggaagaagg cctgcatgac ttgcttcacc 1980
cagacctggc cctggccggt gactggatct actgcatcac agatattgac ccagaccacc 2040
ggaagctcag ccagctagag gccatgatcc gcttcctcac caggaaggac ccagacctgg 2100
agtgtgacga ggagctggtc cgggaggtgc tgtttgacgc ggtggtgaca gcccccatgg 2160
aagcctactg gacagcgctg gccctcaaca tgtccgagga gtctgaacac gtggtggaca 2220
tggccttcct gggcaccggt gctggcctcc tgagaagcag cttgttcgtg ggctccgaga 2280
aggtctccga gtggcctcct gagaagcagc ttgttcgtgg gctccgagaa ggtctccgac 2340
aggaagttcc tgacacctga ggacgaggcc agcgtgttca ccctggaccg cttcccgctg 2400
tggtagcgcc aggcctcaga gcatcctgct ggcagcttcg tcttcaacct ccgctgggca 2460
gaaggaccag aaagtgcggg tgaacccatg gtggtgacgg caagcacagc tgtggcgggtg 2520
accgtggaca agaggacagc cattgctgca gccgcgggcg tccaaatgaa gctggaattc 2580
ctccagcgca aattctgggc ggcaacgcgg cagtgcagca ctgtggatgg gccgtgcaca 2640
cagagctgcg aggacagtga tctggactgc ttcgtcatcg acaacaacgg gttcattctg 2700
atctccaaga ggtcccgaga gacgggaaga tttctggggg aggtggatgg tgctgtcctg 2760
accagctgc tcagcatggg ggtgttcagc caagtgacta tgtatgacta tcaggccatg 2820
tgcaaacct cgagtcacca ccacagtgc gcccagcccc tggtcagccc aatttctgcc 2880
ttcttgacgg cgaccaggtg gctgctgcag gagctggtgc tgttcctgct ggagtggagt 2940
gtctggggct cctggtacga cagagggggc gagggcaaaa gtgtcttcca tctctccac 3000
aaacacaaga agcaggaccc gctgcagccc tgcgacacgg agtaccctgt gttcgtgtac 3060
cagccggcca tccgggaggg caacgggatc gtggagtgcg ggccctgcca gaaggtattt 3120
gtggtgcagc agattcccaa cagtaacctc ctctctctgg tgacagaccc cacctgtgac 3180
tgcagcatct tcccaccagt gctgcaggag gcgacagaag tcaaataata tgctctgtc 3240
aaatgtgacc ggatgcgctc ccagaagctc cgccggcgac cagactcctg ccacgccttc 3300
catccagagg agaatgccca ggactgcggc ggcgcctcg 3339

```

<210> 53

<211> 1050

<212> PRT

<213> Homo sapiens

<400> 53

```

Met Pro Ala Thr Pro Asn Phe Leu Ala Asn Pro Ser Ser Ser Ser Arg
 1             5             10             15

```

```

Trp Ile Pro Leu Gln Pro Met Pro Val Ala Trp Ala Phe Val Gln Lys
          20             25             30

```

```

Thr Ser Ala Leu Leu Trp Leu Leu Leu Leu Gly Thr Ser Leu Ser Pro
          35             40             45

```

```

Ala Trp Gly Gln Ala Lys Ile Pro Leu Glu Thr Val Lys Leu Trp Ala
          50             55             60

```

Asp	Thr	Phe	Gly	Gly	Asp	Leu	Tyr	Asn	Thr	Val	Thr	Lys	Tyr	Ser	Gly	65	70	75	80
Ser	Leu	Leu	Leu	Gln	Lys	Lys	Tyr	Lys	Asp	Val	Glu	Ser	Ser	Leu	Lys	85	90	95	
Ile	Glu	Glu	Val	Asp	Gly	Leu	Glu	Leu	Val	Arg	Lys	Phe	Ser	Glu	Asp	100	105	110	
Met	Glu	Asn	Met	Leu	Arg	Arg	Lys	Val	Glu	Ala	Val	Gln	Asn	Leu	Val	115	120	125	
Glu	Ala	Ala	Glu	Glu	Ala	Asp	Leu	Asn	His	Glu	Phe	Asn	Glu	Ser	Leu	130	135	140	
Val	Phe	Asp	Tyr	Tyr	Asn	Ser	Val	Leu	Ile	Asn	Glu	Arg	Asp	Glu	Lys	145	150	155	160
Gly	Asn	Phe	Val	Glu	Leu	Gly	Ala	Glu	Phe	Leu	Leu	Glu	Ser	Asn	Ala	165	170	175	
His	Phe	Ser	Asn	Leu	Pro	Val	Asn	Thr	Ser	Ile	Ser	Ser	Val	Gln	Leu	180	185	190	
Pro	Thr	Asn	Val	Tyr	Asn	Lys	Asp	Pro	Asp	Ile	Leu	Asn	Gly	Val	Tyr	195	200	205	
Met	Ser	Glu	Ala	Leu	Asn	Ala	Val	Phe	Val	Glu	Asn	Phe	Gln	Arg	Asp	210	215	220	
Pro	Thr	Leu	Thr	Trp	Gln	Tyr	Phe	Gly	Ser	Ala	Thr	Gly	Phe	Phe	Arg	225	230	235	240
Ile	Tyr	Pro	Gly	Ile	Lys	Trp	Thr	Pro	Asp	Glu	Asn	Gly	Val	Ile	Thr	245	250	255	
Phe	Asp	Cys	Arg	Asn	Arg	Gly	Trp	Tyr	Ile	Gln	Ala	Ala	Thr	Ser	Pro	260	265	270	
Lys	Asp	Ile	Val	Ile	Leu	Val	Asp	Val	Ser	Gly	Ser	Met	Lys	Gly	Leu	275	280	285	
Arg	Met	Thr	Ile	Ala	Lys	His	Thr	Ile	Thr	Thr	Ile	Leu	Asp	Thr	Leu	290	295	300	
Gly	Glu	Asn	Asp	Phe	Val	Asn	Ile	Ile	Ala	Tyr	Asn	Asp	Tyr	Val	His	305	310	315	320

Tyr Ile Glu Pro Cys Phe Lys Gly Ile Leu Val Gln Ala Asp Arg Asp
 325 330 335
 Asn Arg Glu His Phe Lys Leu Leu Val Glu Glu Leu Met Val Lys Gly
 340 345 350
 Val Gly Val Val Asp Gln Ala Leu Arg Glu Ala Phe Gln Ile Leu Lys
 355 360 365
 Gln Phe Gln Glu Ala Lys Gln Gly Ser Leu Cys Asn Gln Ala Ile Met
 370 375 380
 Leu Ile Ser Asp Gly Ala Val Glu Asp Tyr Glu Pro Val Phe Glu Lys
 385 390 395 400
 Tyr Asn Trp Pro Asp Cys Lys Val Arg Val Phe Thr Tyr Leu Ile Gly
 405 410 415
 Arg Glu Val Ser Phe Ala Asp Arg Met Lys Trp Ile Ala Cys Asn Asn
 420 425 430
 Lys Gly Tyr Tyr Thr Gln Ile Ser Thr Leu Ala Asp Thr Gln Glu Asn
 435 440 445
 Val Met Glu Tyr Leu His Val Leu Ser Arg Pro Met Val Ile Asn His
 450 455 460
 Asp His Asp Ile Ile Trp Thr Glu Ala Tyr Met Asp Ser Lys Leu Leu
 465 470 475 480
 Ser Ser Gln Ala Gln Ser Leu Thr Leu Leu Thr Thr Val Ala Met Pro
 485 490 495
 Val Phe Ser Lys Lys Asn Glu Thr Arg Ser His Gly Ile Leu Leu Gly
 500 505 510
 Val Val Gly Ser Asp Val Ala Leu Arg Glu Leu Met Lys Leu Ala Pro
 515 520 525
 Arg Tyr Lys Leu Gly Val His Gly Tyr Ala Phe Leu Asn Thr Asn Asn
 530 535 540
 Gly Tyr Ile Leu Ser His Pro Asp Leu Arg Pro Leu Tyr Arg Glu Gly
 545 550 555 560
 Lys Lys Leu Lys Pro Lys Pro Asn Tyr Asn Ser Val Asp Leu Ser Glu
 565 570 575

Val	Glu	Trp	Glu	Asp	Gln	Ala	Glu	Ser	Leu	Arg	Thr	Ala	Met	Ile	Asn			
			580					585					590					
Arg	Glu	Thr	Gly	Thr	Leu	Ser	Met	Asp	Val	Lys	Val	Pro	Met	Asp	Lys			
			595				600					605						
Gly	Lys	Arg	Val	Leu	Phe	Leu	Thr	Asn	Asp	Tyr	Phe	Phe	Thr	Asp	Ile			
			610				615					620						
Ser	Asp	Thr	Pro	Phe	Ser	Leu	Gly	Val	Val	Leu	Ser	Arg	Gly	His	Gly			
			625			630				635					640			
Glu	Tyr	Ile	Leu	Leu	Gly	Asn	Thr	Ser	Val	Glu	Glu	Gly	Leu	His	Asp			
					645				650						655			
Leu	Leu	His	Pro	Asp	Leu	Ala	Leu	Ala	Gly	Asp	Trp	Ile	Tyr	Cys	Ile			
			660					665							670			
Thr	Asp	Ile	Asp	Pro	Asp	His	Arg	Lys	Leu	Ser	Gln	Leu	Glu	Ala	Met			
			675					680							685			
Ile	Arg	Phe	Leu	Thr	Arg	Lys	Asp	Pro	Asp	Leu	Glu	Cys	Asp	Glu	Glu			
			690				695				700							
Leu	Val	Arg	Glu	Val	Leu	Phe	Asp	Ala	Val	Val	Thr	Ala	Pro	Met	Glu			
			705			710				715					720			
Ala	Tyr	Trp	Thr	Ala	Leu	Ala	Leu	Asn	Met	Ser	Glu	Glu	Ser	Glu	His			
					725				730						735			
Val	Val	Asp	Met	Ala	Phe	Leu	Gly	Thr	Arg	Ala	Gly	Leu	Leu	Arg	Ser			
			740					745					750					
Ser	Leu	Phe	Val	Gly	Ser	Glu	Lys	Val	Ser	Asp	Arg	Lys	Phe	Leu	Thr			
			755				760					765						
Pro	Glu	Asp	Glu	Ala	Ser	Val	Phe	Thr	Leu	Asp	Arg	Phe	Pro	Leu	Trp			
			770				775				780							
Tyr	Arg	Gln	Ala	Ser	Glu	His	Pro	Ala	Gly	Ser	Phe	Val	Phe	Asn	Leu			
			785			790				795					800			
Arg	Trp	Ala	Glu	Gly	Pro	Glu	Ser	Ala	Gly	Glu	Pro	Met	Val	Val	Thr			
					805				810						815			
Ala	Ser	Thr	Ala	Val	Ala	Val	Thr	Val	Asp	Lys	Arg	Thr	Ala	Ile	Ala			
			820					825							830			

Ala	Ala	Ala	Gly	Val	Gln	Met	Lys	Leu	Glu	Phe	Leu	Gln	Arg	Lys	Phe	835	840	845	
Trp	Ala	Ala	Thr	Arg	Gln	Cys	Ser	Thr	Val	Asp	Gly	Pro	Cys	Thr	Gln	850	855	860	
Ser	Cys	Glu	Asp	Ser	Asp	Leu	Asp	Cys	Phe	Val	Ile	Asp	Asn	Asn	Gly	865	870	875	880
Phe	Ile	Leu	Ile	Ser	Lys	Arg	Ser	Arg	Glu	Thr	Gly	Arg	Phe	Leu	Gly	885	890	895	
Glu	Val	Asp	Gly	Ala	Val	Leu	Thr	Gln	Leu	Leu	Ser	Met	Gly	Val	Phe	900	905	910	
Ser	Gln	Val	Thr	Met	Tyr	Asp	Tyr	Gln	Ala	Met	Cys	Lys	Pro	Ser	Ser	915	920	925	
His	His	His	Ser	Ala	Ala	Gln	Pro	Leu	Val	Ser	Pro	Ile	Ser	Ala	Phe	930	935	940	
Leu	Thr	Ala	Thr	Arg	Trp	Leu	Leu	Gln	Glu	Leu	Val	Leu	Phe	Leu	Leu	945	950	955	960
Glu	Trp	Ser	Val	Trp	Gly	Ser	Trp	Tyr	Asp	Arg	Gly	Ala	Glu	Ala	Lys	965	970	975	
Ser	Val	Phe	His	His	Ser	His	Lys	His	Lys	Lys	Gln	Asp	Pro	Leu	Gln	980	985	990	
Pro	Cys	Asp	Thr	Glu	Tyr	Pro	Val	Phe	Val	Tyr	Gln	Pro	Ala	Ile	Arg	995	1000	1005	
Glu	Ala	Asn	Gly	Ile	Val	Glu	Cys	Gly	Pro	Cys	Gln	Lys	Val	Phe	Val	1010	1015	1020	
Val	Gln	Gln	Ile	Pro	Asn	Ser	Asn	Leu	Leu	Leu	Leu	Val	Thr	Asp	Pro	1025	1030	1035	1040
Thr	Cys	Asp	Cys	Ser	Ile	Phe	Pro	Pro	Val							1045	1050		

<210> 54

<211> 1069

<212> PRT

<213> Homo sapiens

<400> 54

Met Pro Ala Thr Pro Asn Phe Leu Ala Asn Pro Ser Ser Ser Ser Arg
1 5 10 15

Trp Ile Pro Leu Gln Pro Met Pro Val Ala Trp Ala Phe Val Gln Lys
20 25 30

Thr Ser Ala Leu Leu Trp Leu Leu Leu Leu Gly Thr Ser Leu Ser Pro
35 40 45

Ala Trp Gly Gln Ala Lys Ile Pro Leu Glu Thr Val Lys Leu Trp Ala
50 55 60

Asp Thr Phe Gly Gly Asp Leu Tyr Asn Thr Val Thr Lys Tyr Ser Gly
65 70 75 80

Ser Leu Leu Leu Gln Lys Lys Tyr Lys Asp Val Glu Ser Ser Leu Lys
85 90 95

Ile Glu Glu Val Asp Gly Leu Glu Leu Val Arg Lys Phe Ser Glu Asp
100 105 110

Met Glu Asn Met Leu Arg Arg Lys Val Glu Ala Val Gln Asn Leu Val
115 120 125

Glu Ala Ala Glu Glu Ala Asp Leu Asn His Glu Phe Asn Glu Ser Leu
130 135 140

Val Phe Asp Tyr Tyr Asn Ser Val Leu Ile Asn Glu Arg Asp Glu Lys
145 150 155 160

Gly Asn Phe Val Glu Leu Gly Ala Glu Phe Leu Leu Glu Ser Asn Ala
165 170 175

His Phe Ser Asn Leu Pro Val Asn Thr Ser Ile Ser Ser Val Gln Leu
180 185 190

Pro Thr Asn Val Tyr Asn Lys Asp Pro Asp Ile Leu Asn Gly Val Tyr
195 200 205

Met Ser Glu Ala Leu Asn Ala Val Phe Val Glu Asn Phe Gln Arg Asp
210 215 220

Pro Thr Leu Thr Trp Gln Tyr Phe Gly Ser Ala Thr Gly Phe Phe Arg
225 230 235 240

Ile Tyr Pro Gly Ile Lys Trp Thr Pro Asp Glu Asn Gly Val Ile Thr
245 250 255

Phe	Asp	Cys	Arg	Asn	Arg	Gly	Trp	Tyr	Ile	Gln	Ala	Ala	Thr	Ser	Pro			
				260				265					270					
Lys	Asp	Ile	Val	Ile	Leu	Val	Asp	Val	Ser	Gly	Ser	Met	Lys	Gly	Leu			
		275					280					285						
Arg	Met	Thr	Ile	Ala	Lys	His	Thr	Ile	Thr	Thr	Ile	Leu	Asp	Thr	Leu			
	290					295					300							
Gly	Glu	Asn	Asp	Phe	Val	Asn	Ile	Ile	Ala	Tyr	Asn	Asp	Tyr	Val	His			
305					310					315					320			
Tyr	Ile	Glu	Pro	Cys	Phe	Lys	Gly	Ile	Leu	Val	Gln	Ala	Asp	Arg	Asp			
				325				330						335				
Asn	Arg	Glu	His	Phe	Lys	Leu	Leu	Val	Glu	Glu	Leu	Met	Val	Lys	Gly			
			340					345					350					
Val	Gly	Val	Val	Asp	Gln	Ala	Leu	Arg	Glu	Ala	Phe	Gln	Ile	Leu	Lys			
		355					360					365						
Gln	Phe	Gln	Glu	Ala	Lys	Gln	Gly	Ser	Leu	Cys	Asn	Gln	Ala	Ile	Met			
	370					375					380							
Leu	Ile	Ser	Asp	Gly	Ala	Val	Glu	Asp	Tyr	Glu	Pro	Val	Phe	Glu	Lys			
385					390				395						400			
Tyr	Asn	Trp	Pro	Asp	Cys	Lys	Val	Arg	Val	Phe	Thr	Tyr	Leu	Ile	Gly			
				405				410					415					
Arg	Glu	Val	Ser	Phe	Ala	Asp	Arg	Met	Lys	Trp	Ile	Ala	Cys	Asn	Asn			
		420						425					430					
Lys	Gly	Tyr	Tyr	Thr	Gln	Ile	Ser	Thr	Leu	Ala	Asp	Thr	Gln	Glu	Asn			
		435					440					445						
Val	Met	Glu	Tyr	Leu	His	Val	Leu	Ser	Arg	Pro	Met	Val	Ile	Asn	His			
	450					455					460							
Asp	His	Asp	Ile	Ile	Trp	Thr	Glu	Ala	Tyr	Met	Asp	Ser	Lys	Leu	Leu			
465					470				475						480			
Ser	Ser	Gln	Ala	Gln	Ser	Leu	Thr	Leu	Leu	Thr	Thr	Val	Ala	Met	Pro			
				485				490					495					
Val	Phe	Ser	Lys	Lys	Asn	Glu	Thr	Arg	Ser	His	Gly	Ile	Leu	Leu	Gly			
			500					505					510					

Pro Glu Asp Glu Ala Ser Val Phe Thr Leu Asp Arg Phe Pro Leu Trp
 770 775 780

Tyr Arg Gln Ala Ser Glu His Pro Ala Gly Ser Phe Val Phe Asn Leu
 785 790 795 800

Arg Trp Ala Glu Gly Pro Glu Ser Ala Gly Glu Pro Met Val Val Thr
 805 810 815

Ala Ser Thr Ala Val Ala Val Thr Val Asp Lys Arg Thr Ala Ile Ala
 820 825 830

Ala Ala Ala Gly Val Gln Met Lys Leu Glu Phe Leu Gln Arg Lys Phe
 835 840 845

Trp Ala Ala Thr Arg Gln Cys Ser Thr Val Asp Gly Pro Cys Thr Gln
 850 855 860

Ser Cys Glu Asp Ser Asp Leu Asp Cys Phe Val Ile Asp Asn Asn Gly
 865 870 875 880

Phe Ile Leu Ile Ser Lys Arg Ser Arg Glu Thr Gly Arg Phe Leu Gly
 885 890 895

Glu Val Asp Gly Ala Val Leu Thr Gln Leu Leu Ser Met Gly Val Phe
 900 905 910

Ser Gln Val Thr Met Tyr Asp Tyr Gln Ala Met Cys Lys Pro Ser Ser
 915 920 925

His His His Ser Ala Ala Gln Pro Leu Val Ser Pro Ile Ser Ala Phe
 930 935 940

Leu Thr Ala Thr Arg Trp Leu Leu Gln Glu Leu Val Leu Phe Leu Leu
 945 950 955 960

Glu Trp Ser Val Trp Gly Ser Trp Tyr Asp Arg Gly Ala Glu Ala Lys
 965 970 975

Ser Val Phe His His Ser His Lys His Lys Lys Gln Asp Pro Leu Gln
 980 985 990

Pro Cys Asp Thr Glu Tyr Pro Val Phe Val Tyr Gln Pro Ala Ile Arg
 995 1000 1005

Glu Ala Asn Gly Ile Val Glu Cys Gly Pro Cys Gln Lys Val Phe Val
 1010 1015 1020

Val Gln Gln Ile Pro Asn Ser Asn Leu Leu Leu Leu Val Thr Asp Pro
 1025 1030 1035 1040

Thr Cys Asp Cys Ser Ile Phe Pro Pro Val Leu Gln Glu Ala Thr Glu
 1045 1050 1055

Val Lys Tyr Asn Ala Ser Val Lys Cys Asp Arg Met Arg
 1060 1065

<210> 55
 <211> 1097
 <212> PRT
 <213> Homo sapiens

<400> 55
 Met Pro Ala Thr Pro Asn Phe Leu Ala Asn Pro Ser Ser Ser Ser Arg
 1 5 10 15

Trp Ile Pro Leu Gln Pro Met Pro Val Ala Trp Ala Phe Val Gln Lys
 20 25 30

Thr Ser Ala Leu Leu Trp Leu Leu Leu Leu Gly Thr Ser Leu Ser Pro
 35 40 45

Ala Trp Gly Gln Ala Lys Ile Pro Leu Glu Thr Val Lys Leu Trp Ala
 50 55 60

Asp Thr Phe Gly Gly Asp Leu Tyr Asn Thr Val Thr Lys Tyr Ser Gly
 65 70 75 80

Ser Leu Leu Leu Gln Lys Lys Tyr Lys Asp Val Glu Ser Ser Leu Lys
 85 90 95

Ile Glu Glu Val Asp Gly Leu Glu Leu Val Arg Lys Phe Ser Glu Asp
 100 105 110

Met Glu Asn Met Leu Arg Arg Lys Val Glu Ala Val Gln Asn Leu Val
 115 120 125

Glu Ala Ala Glu Glu Ala Asp Leu Asn His Glu Phe Asn Glu Ser Leu
 130 135 140

Val Phe Asp Tyr Tyr Asn Ser Val Leu Ile Asn Glu Arg Asp Glu Lys
 145 150 155 160

Gly Asn Phe Val Glu Leu Gly Ala Glu Phe Leu Leu Glu Ser Asn Ala

165										170					175				
His	Phe	Ser	Asn	Leu	Pro	Val	Asn	Thr	Ser	Ile	Ser	Ser	Val	Gln	Leu				
			180					185					190						
Pro	Thr	Asn	Val	Tyr	Asn	Lys	Asp	Pro	Asp	Ile	Leu	Asn	Gly	Val	Tyr				
		195					200						205						
Met	Ser	Glu	Ala	Leu	Asn	Ala	Val	Phe	Val	Glu	Asn	Phe	Gln	Arg	Asp				
		210				215						220							
Pro	Thr	Leu	Thr	Trp	Gln	Tyr	Phe	Gly	Ser	Ala	Thr	Gly	Phe	Phe	Arg				
225					230						235				240				
Ile	Tyr	Pro	Gly	Ile	Lys	Trp	Thr	Pro	Asp	Glu	Asn	Gly	Val	Ile	Thr				
			245						250					255					
Phe	Asp	Cys	Arg	Asn	Arg	Gly	Trp	Tyr	Ile	Gln	Ala	Ala	Thr	Ser	Pro				
			260					265						270					
Lys	Asp	Ile	Val	Ile	Leu	Val	Asp	Val	Ser	Gly	Ser	Met	Lys	Gly	Leu				
		275					280						285						
Arg	Met	Thr	Ile	Ala	Lys	His	Thr	Ile	Thr	Thr	Ile	Leu	Asp	Thr	Leu				
		290				295						300							
Gly	Glu	Asn	Asp	Phe	Val	Asn	Ile	Ile	Ala	Tyr	Asn	Asp	Tyr	Val	His				
305					310						315				320				
Tyr	Ile	Glu	Pro	Cys	Phe	Lys	Gly	Ile	Leu	Val	Gln	Ala	Asp	Arg	Asp				
			325						330					335					
Asn	Arg	Glu	His	Phe	Lys	Leu	Leu	Val	Glu	Glu	Leu	Met	Val	Lys	Gly				
			340					345						350					
Val	Gly	Val	Val	Asp	Gln	Ala	Leu	Arg	Glu	Ala	Phe	Gln	Ile	Leu	Lys				
		355					360					365							
Gln	Phe	Gln	Glu	Ala	Lys	Gln	Gly	Ser	Leu	Cys	Asn	Gln	Ala	Ile	Met				
		370				375					380								
Leu	Ile	Ser	Asp	Gly	Ala	Val	Glu	Asp	Tyr	Glu	Pro	Val	Phe	Glu	Lys				
385					390						395				400				
Tyr	Asn	Trp	Pro	Asp	Cys	Lys	Val	Arg	Val	Phe	Thr	Tyr	Leu	Ile	Gly				
			405						410				415						
Arg	Glu	Val	Ser	Phe	Ala	Asp	Arg	Met	Lys	Trp	Ile	Ala	Cys	Asn	Asn				

420	425	430
Lys Gly Tyr Tyr Thr Gln Ile Ser Thr Leu Ala Asp Thr Gln Glu Asn 435	440	445
Val Met Glu Tyr Leu His Val Leu Ser Arg Pro Met Val Ile Asn His 450	455	460
Asp His Asp Ile Ile Trp Thr Glu Ala Tyr Met Asp Ser Lys Leu Leu 465	470	475 480
Ser Ser Gln Ala Gln Ser Leu Thr Leu Leu Thr Thr Val Ala Met Pro 485	490	495
Val Phe Ser Lys Lys Asn Glu Thr Arg Ser His Gly Ile Leu Leu Gly 500	505	510
Val Val Gly Ser Asp Val Ala Leu Arg Glu Leu Met Lys Leu Ala Pro 515	520	525
Arg Tyr Lys Leu Gly Val His Gly Tyr Ala Phe Leu Asn Thr Asn Asn 530	535	540
Gly Tyr Ile Leu Ser His Pro Asp Leu Arg Pro Leu Tyr Arg Glu Gly 545	550	555 560
Lys Lys Leu Lys Pro Lys Pro Asn Tyr Asn Ser Val Asp Leu Ser Glu 565	570	575
Val Glu Trp Glu Asp Gln Ala Glu Ser Leu Arg Thr Ala Met Ile Asn 580	585	590
Arg Glu Thr Gly Thr Leu Ser Met Asp Val Lys Val Pro Met Asp Lys 595	600	605
Gly Lys Arg Val Leu Phe Leu Thr Asn Asp Tyr Phe Phe Thr Asp Ile 610	615	620
Ser Asp Thr Pro Phe Ser Leu Gly Val Val Leu Ser Arg Gly His Gly 625	630	635 640
Glu Tyr Ile Leu Leu Gly Asn Thr Ser Val Glu Glu Gly Leu His Asp 645	650	655
Leu Leu His Pro Asp Leu Ala Leu Ala Gly Asp Trp Ile Tyr Cys Ile 660	665	670
Thr Asp Ile Asp Pro Asp His Arg Lys Leu Ser Gln Leu Glu Ala Met		

675					680					685						
Ile	Arg	Phe	Leu	Thr	Arg	Lys	Asp	Pro	Asp	Leu	Glu	Cys	Asp	Glu	Glu	
690					695					700						
Leu	Val	Arg	Glu	Val	Leu	Phe	Asp	Ala	Val	Val	Thr	Ala	Pro	Met	Glu	
705					710					715					720	
Ala	Tyr	Trp	Thr	Ala	Leu	Ala	Leu	Asn	Met	Ser	Glu	Glu	Ser	Glu	His	
725					730					735						
Val	Val	Asp	Met	Ala	Phe	Leu	Gly	Thr	Arg	Ala	Ser	Gly	Leu	Leu	Arg	
740					745					750						
Ser	Ser	Leu	Phe	Val	Gly	Ser	Glu	Lys	Val	Ser	Asp	Arg	Lys	Phe	Leu	
755					760					765						
Thr	Pro	Glu	Asp	Glu	Ala	Ser	Val	Phe	Thr	Leu	Asp	Arg	Phe	Pro	Leu	
770					775					780						
Trp	Tyr	Arg	Gln	Ala	Ser	Glu	His	Pro	Ala	Gly	Ser	Phe	Val	Phe	Asn	
785					790					795					800	
Leu	Arg	Trp	Ala	Glu	Gly	Pro	Glu	Ser	Ala	Gly	Glu	Pro	Met	Val	Val	
805					810					815						
Thr	Ala	Ser	Thr	Ala	Val	Ala	Val	Thr	Val	Asp	Lys	Arg	Thr	Ala	Ile	
820					825					830						
Ala	Ala	Ala	Ala	Gly	Val	Gln	Met	Lys	Leu	Glu	Phe	Leu	Gln	Arg	Lys	
835					840					845						
Phe	Trp	Ala	Ala	Thr	Arg	Gln	Cys	Ser	Thr	Val	Asp	Gly	Pro	Cys	Thr	
850					855					860						
Gln	Ser	Cys	Glu	Asp	Ser	Asp	Leu	Asp	Cys	Phe	Val	Ile	Asp	Asn	Asn	
865					870					875					880	
Gly	Phe	Ile	Leu	Ile	Ser	Lys	Arg	Ser	Arg	Glu	Thr	Gly	Arg	Phe	Leu	
885					890					895						
Gly	Glu	Val	Asp	Gly	Ala	Val	Leu	Thr	Gln	Leu	Leu	Ser	Met	Gly	Val	
900					905					910						
Phe	Ser	Gln	Val	Thr	Met	Tyr	Asp	Tyr	Gln	Ala	Met	Cys	Lys	Pro	Ser	
915					920					925						
Ser	His	His	His	Ser	Ala	Ala	Gln	Pro	Leu	Val	Ser	Pro	Ile	Ser	Ala	

930	935	940
Phe Leu Thr Ala Thr Arg Trp Leu Leu Gln Glu Leu Val Leu Phe Leu		
945	950	955 960
Leu Glu Trp Ser Val Trp Gly Ser Trp Tyr Asp Arg Gly Ala Glu Ala		
	965	970 975
Lys Ser Val Phe His His Ser His Lys His Lys Lys Gln Asp Pro Leu		
	980	985 990
Gln Pro Cys Asp Thr Glu Tyr Pro Val Phe Val Tyr Gln Pro Ala Ile		
	995	1000 1005
Arg Glu Ala Asn Gly Ile Val Glu Cys Gly Pro Cys Gln Lys Val Phe		
1010	1015	1020
Val Val Gln Gln Ile Pro Asn Ser Asn Leu Leu Leu Leu Val Thr Asp		
1025	1030	1035 1040
Pro Thr Cys Asp Cys Ser Ile Phe Pro Pro Val Leu Gln Glu Ala Thr		
	1045	1050 1055
Glu Val Lys Tyr Asn Ala Ser Val Lys Cys Asp Arg Met Arg Ser Gln		
	1060	1065 1070
Lys Leu Arg Arg Arg Pro Asp Ser Cys His Ala Phe His Pro Glu Glu		
1075	1080	1085
Asn Ala Gln Asp Cys Gly Gly Ala Ser		
1090	1095	